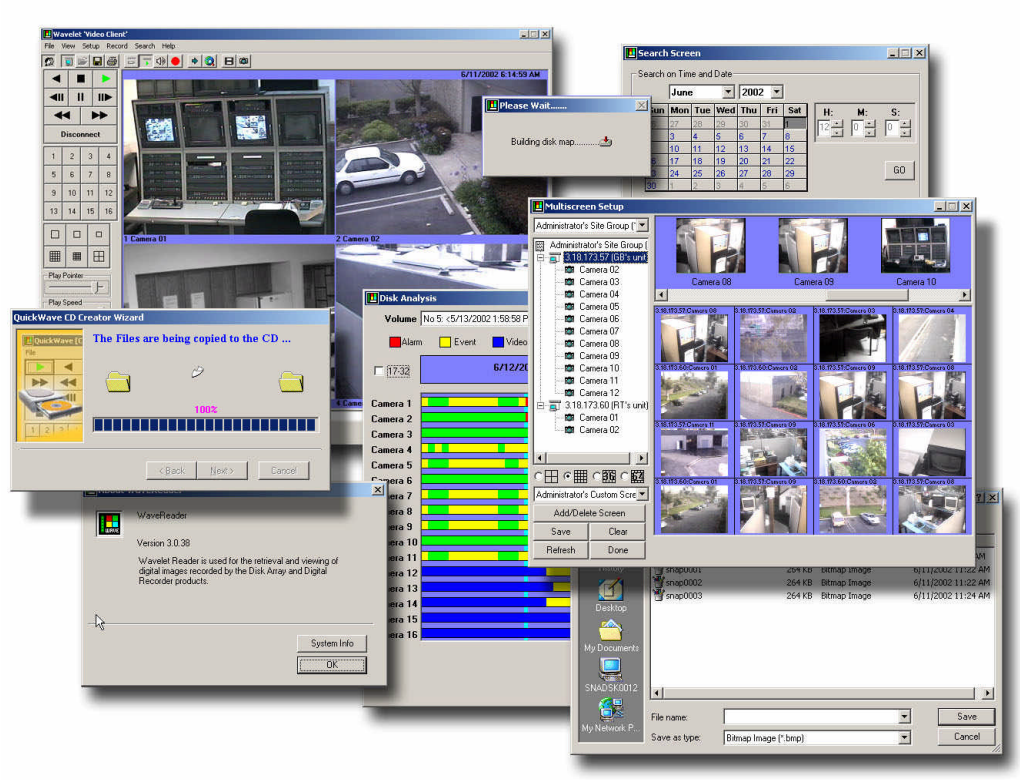
Wavelet 'Video Client'
Please Wait.....
Building disk map.....
Search Screen
Search on Time and Date
Multiscreen Setup
Disk Analysis
QuickWave CD Creator Wizard
The Files are being copied to the CD ...
WaveReader
Version 3.0.38
Wavelet Reader is used for the retrieval and viewing of digital images recorded by the Disk Array and Digital Recorder products.
System Info
OK

WaveReader

User Manual

IMPORTANT INFORMATION

All information and specifications furnished are believed to be accurate and reliable. No responsibility is assumed for either its use or any infringements of rights of third parties that may result from its use. No license is granted by implication or otherwise under any patent or patent rights.

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1 INTRODUCTION

1.1 Product Description

WaveReader provides the user the ability to view video via ethernet or modem directly from:

- Digital Video Recorders (DVR).
- Digital Video Multiplexer Recorders (DVR).
- Digital Single Channel Recorders (DVR).
- Digital Video Storage (DVS) devices.

WaveReader also allows the user to view video that has been archived onto a CD-R, or recorded directly onto the hard drive of a PC.

1.2 Features

- Main window for viewing live or recorded video.
- Disk analysis window provides graphical overview of recorded data on a per camera basis.
- Search Screen window for searching and displaying data from a specific time and date.
- Event Search window for searching and displaying recorded event data.
- Motion Search by Camera on DVR.
- Remote access to DVR menu systems.
- Images can be captured, printed, and exported as a bitmap or JPEG file.
- Images can be enhanced using WaveStudio, as well as while viewing in real time.
- Text data display.
- Advanced Retail Text Searches.
- Alarm Monitoring.
- QuickWave evidence capture CD.
- Remote Pan/Tilt/Zoom camera control.
- French language selectable via Windows Control Panel.
- Multi-Site Mode, which allows users to view camera images from multiple Triplexes simultaneously on user definable screens.

1.3 Minimum System Requirements

The following minimum system requirements must be met before software installation.

Windows® 98SE/NT/ME/ 2000/XP are registered trademarks of Microsoft Corporation.

Hardware	Specification
CPU	Pentium 400 MHz or faster
RAM	128 MB
Hard Disk Drive	32 MB free hard drive space
Monitor & Graphics	SVGA, 1024 x 768, 24 bit color.
Operating System	Windows® 98SE Release 2/NT/ME/2000/XP

For Windows NT platforms, please ensure that Internet Explorer 5.0 or later is installed.

2 GETTING STARTED

2.1 Installation

Installing From CD-ROM

To install the WaveReader on your hard disk from a CD:

1. Place the WaveReader CD in the CD-ROM drive of a PC that meets the minimum system requirements.
2. Follow the instructions for installation as they appear.

If Autorun is not enabled on your PC, choose Run from the Start Menu, then type d:\setup.exe (where "d" is the drive letter of your CD-ROM) and click OK. Follow the instructions as they appear on your screen.

Installing from the ZIP files

To install the WaveReader on your hard disk from a ZIP file:

1. Copy the ZIP file to a temporary directory on the hard disk.
2. Open the ZIP file by double-clicking on it. If the WinZip® software required to open the file is not available on the PC, it is easily obtained as Shareware or Freeware from many locations on the Internet.
3. Select setup.exe by clicking on it in the WinZip® window.
4. Follow the instructions for installation as they appear.
5. When the installation is successfully completed, delete the temporary directory and its contents.

WinZip® is a registered trademark of Nico Mak Computing.

2.2 Starting WaveReader

To start the WaveReader program, double-click on the WaveReader Desktop icon or choose **Programs** from the **Start** menu and then select **WaveReader**. The Main window of the WaveReader program will appear.

Connecting/Logging In

To access the features of WaveReader the user must Login. When logging in you will be asked for a User Name and Password. The default Administrator password is 12345. The Setup menu becomes available after a successful login. Using the Connect command to Log on also initiates access to the address book.

There are four ways to Connect/Log in and start using WaveReader:

1. From the Menu Bar click **File**, then Log In. The Login screen will appear.
2. Click the **Login** icon on the Icon Bar. The Login screen will appear.

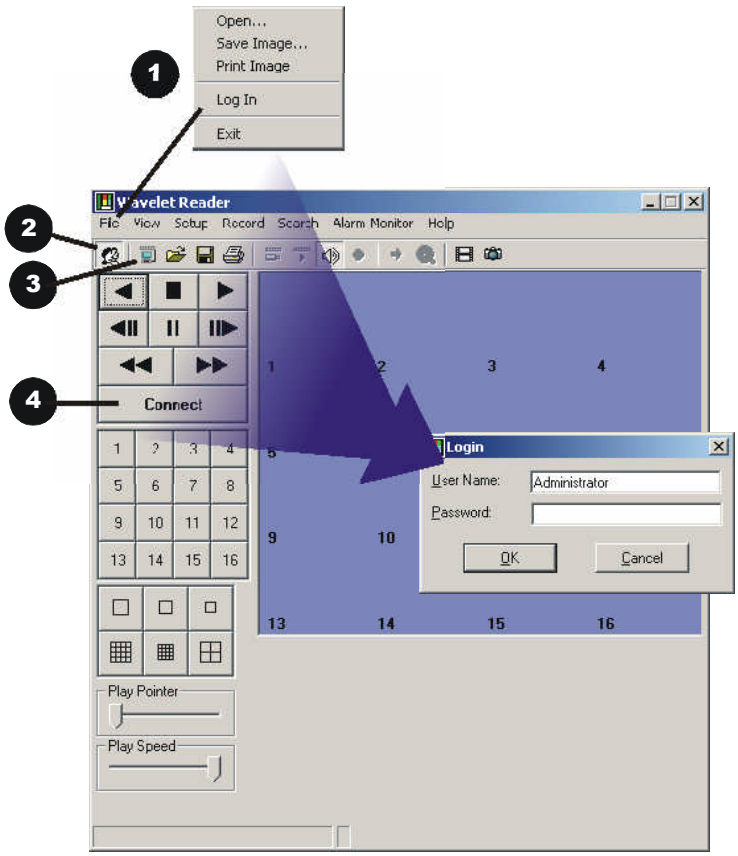
3. Click the **Connect** icon on the Icon Bar. The Login screen will appear.
4. Click on the **Connect** button on the Button Panel. The Login screen will appear.

It is recommended that the user name and password be changed after installation is complete by the system administrator (see 3.6 The Security Menu). As a security measure, store the password in the administrator's secure files or in a limited access area.

After a successful login (using **Connect**), the Setup menu becomes available in the Main Menu bar and the Address Book window opens on the desktop.

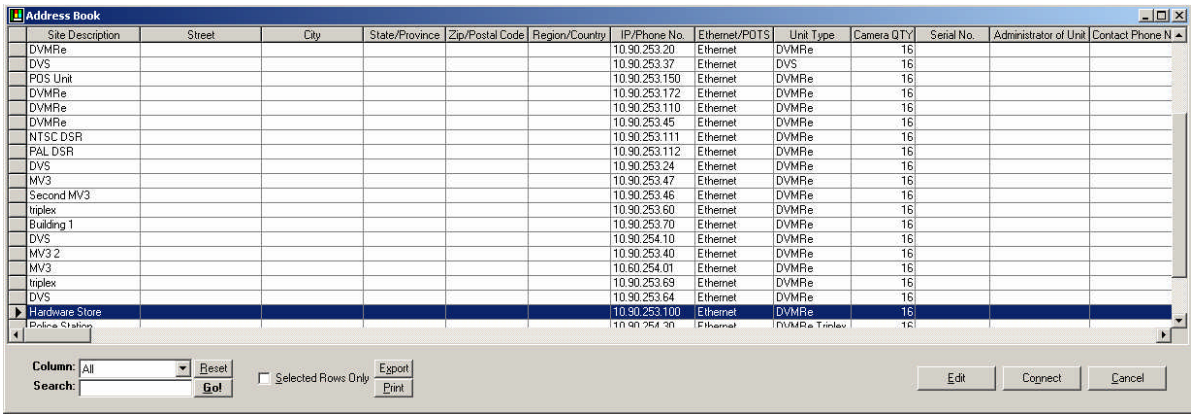
The Setup menu contains the following menu items:

- The Address Book
- Security Settings
- Connection Type Setup
- Network Speed Setup
- DVR Menu Setup



The Address Book is a comprehensive relational database consisting of the following fields:

- Site Description
- Street Address
- City
- State/Province
- Zip/Postal Code
- Region/Country
- IP Address/Phone Number
- Ethernet/POTS (Connection type)
- Unit Type (Disk Array, DVR, etc.)
- Camera Quantity
- Serial Number
- Administrator of Unit
- Contact Phone Number
- Notes (4 fields)

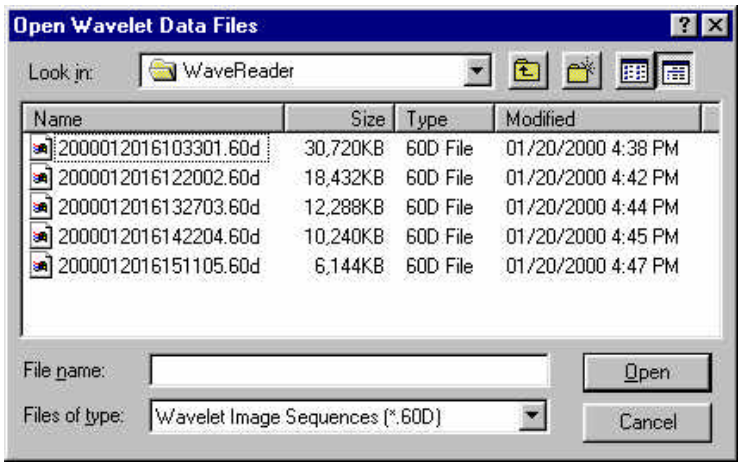


Connecting to a Site/Device via the Address Book

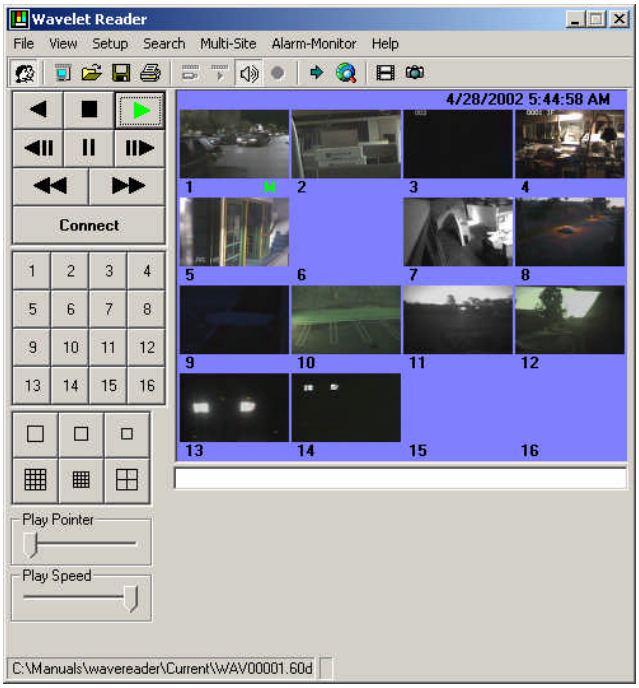
Highlight a selection on the Address Book and double-click or click on the **Connect** button. WaveReader will attempt to connect to the device/site using the parameters specified in the database. See **Site Administration** for information on creating and editing the Address Book. If WaveReader cannot connect to the device/site it will display a timeout message. Verify that the parameters in the Address Book are correct. If the parameters are correct verify that the PC can connect to the Internet or to another ethernet connected device.

2.3 Opening A Stored Video File

From the Menu Bar, click **File**, and then click **Open** or click on the **Open File** icon on the Icon Bar. The Open Wavelet Data Files window will appear (depending on the operating system, some windows may differ from the one shown here).



1. Select the Drive and the Directory (normally the CD-ROM drive) that contains the video files archived from the archiving device.
2. The long file names identify the Time and the Date of the recording, and the order in which they were placed on the storage medium.
3. Select the file for display, and click on the Open button in this window to load the file.
4. The file will load, but initially, the video will not display until the Play Forward button is pressed. The Play Forward button turns green to indicate when play operations have started.
5. When video begins to play, the display should appear similar to the image shown here.



This screen is the Medium format, 16-Way Multi-Camera. Clicking any camera image will display that camera image in full screen.

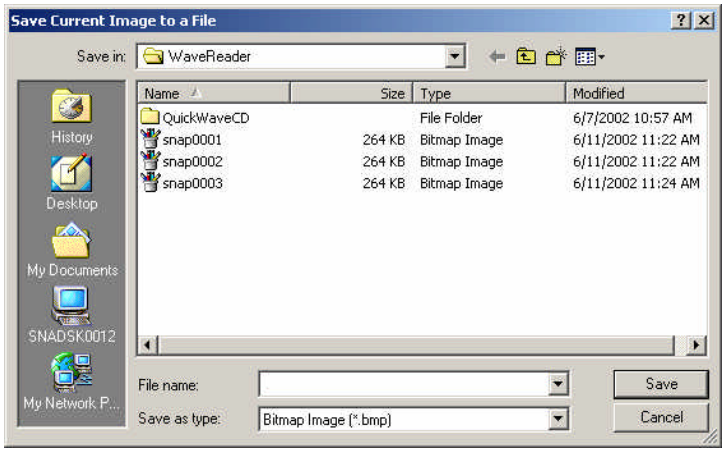
A red letter "**A**" opposite the camera number means an alarm occurred on that camera.

A yellow letter "**E**" opposite the camera number means an event occurred on that camera. A green letter "**M**" opposite the camera number means that motion has been detected on that camera.

When playing back .60d files that have associated audio, ensure that the play back image is a single image display. If viewing a multiscreen with associated audio, the audio will fade in and out as the images are updated.

2.4 Saving A Video File

From the Menu Bar, click **File**, and then click **Save** or click the **Save File** icon on the Icon Bar. The following menu will appear.



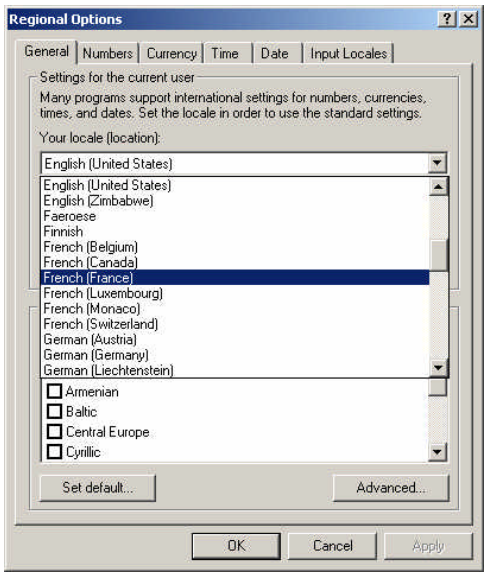
This window displays the above dialog box, indicating snapshots previously saved in Bitmap (*.BMP) file format on the PC's hard drive. The currently displayed video image may be saved with the user specifying the file name to be used, and the file type (*.bmp or *.jpg) to be chosen. (The asterisk stands for the file name.)

The benefit to this method as opposed to using the Snapshot icon is that the images can be saved with a more appropriate file name that better describes the picture's content rather than letting the software automatically assign a numeric sequence file name.

The disadvantage to using this method is that playback operations continue while the user is interacting with the dialog box and specifying the file name. If the user misses seeing portions of the video, it will be necessary to replay those sections again so that they may be viewed without further distractions.

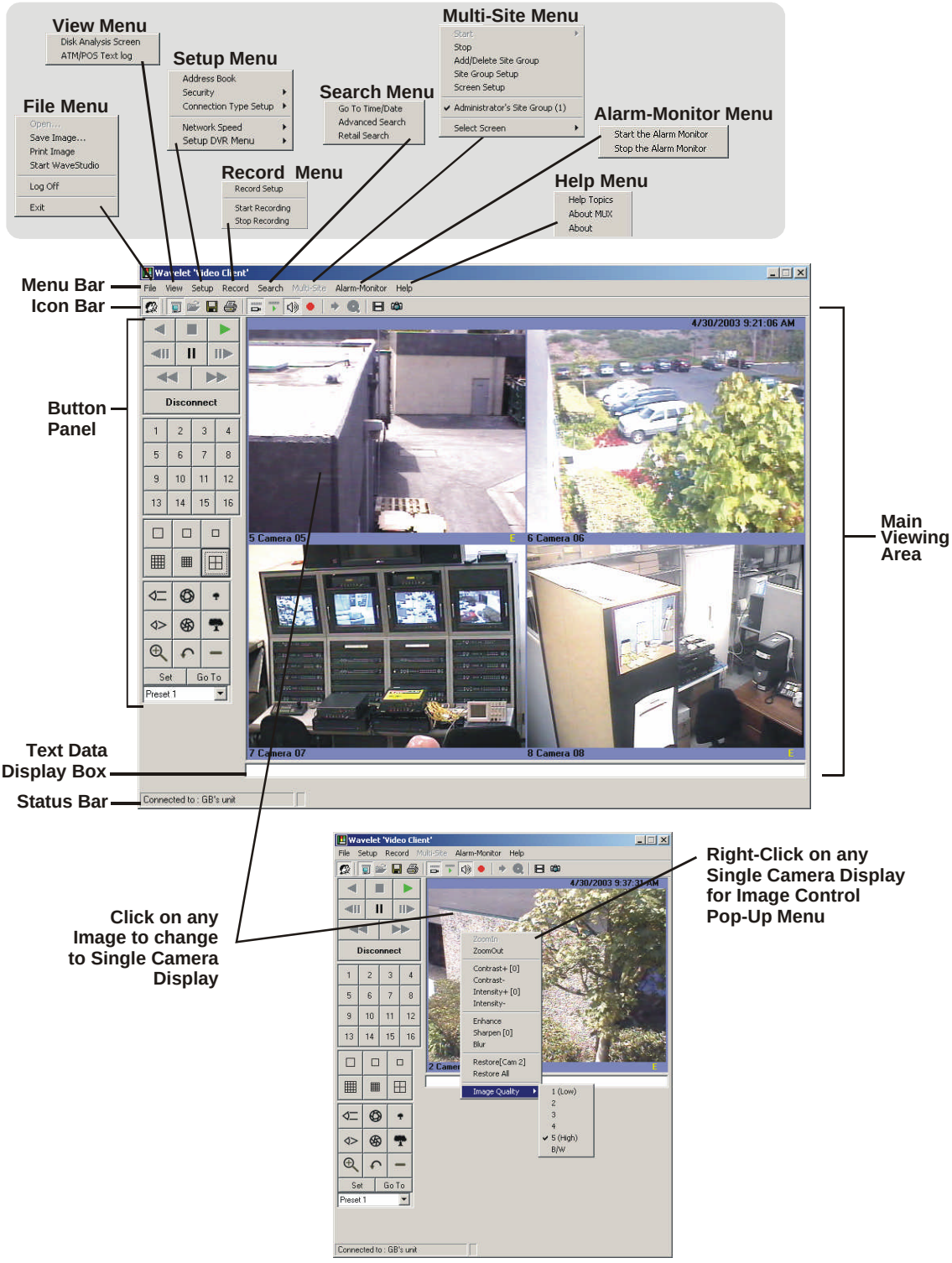
2.5 Changing Languages

WaveReader can be setup in one of two languages, **English** and **French**. English is the default language. To change the language open the **Windows Control Panel** and select **Regional Options/Locale**, then select the language.



3 WAVEREADER REFERENCE

3.1 WaveReader Main Window Overview



3.2 The Main Program Window

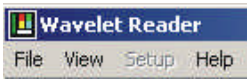
The Main program window consists of the following areas:

- **The Menu Bar:** At the top of the window.
- **The Icon Bar:** Underneath the Menu Bar.
- **The Main Viewing Area:** The large blue area.
- **The Status Bar:** At the bottom of the window.
- **The Button Panel:** The left side of the window.
- **The Text Data Display Box:** Located under the Main Viewing Area.
- **Image Control Pop-Up Menu:** Right-click on a Single Display.

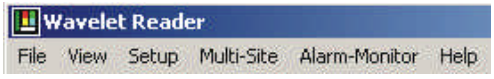
The Menu Bar

The Menu Bar provides access to the programs functions and parameters, as well as access to files. The Menu Bar changes its appearance to reflect the program mode that it is operating in.

Initial Menu

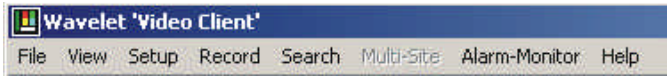


Menu after Log In



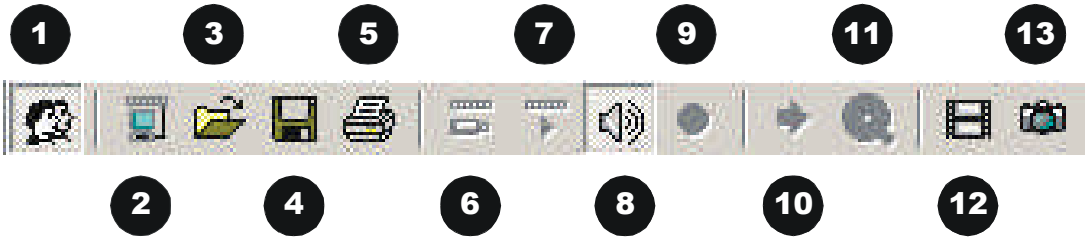
Menu after Live Connection

Menu in Playback mode



The Icon Bar

The Icon Bar provides one-click access to program functions and parameters, as well as access to files.



1. **Log In / Log Off**
2. **Connect / Disconnect**
3. **Open File**
4. **Save Image**
5. **Print Image**
6. **View Live**
7. **View Playback**
8. **Audio On / Mute**
9. **Start / Stop Recording**
10. **Go To Time / Date**
11. **Advanced Search**
12. **Start WaveStudio**
13. **Snapshot**

The Main Viewing Area

Pictures are displayed in this area in Multi-Camera, and Single-Camera formats. Picture display order is according to the information encoded by the unit used to create the original video data file.

Choose from the following displays:

- 16-way Multiscreen Display (Large and Medium)
- 4-way Display
- Single Camera Display Large
- Single Camera Display Medium
- Single Camera Display Small

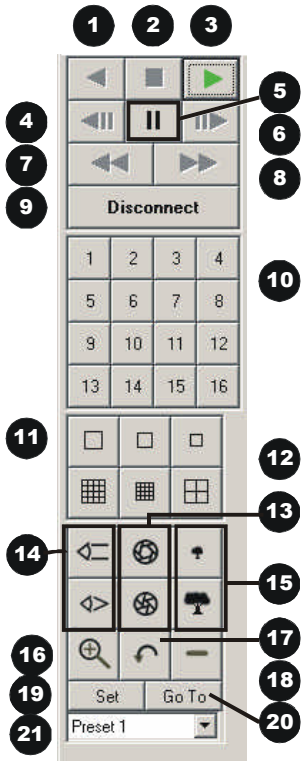
The Status Bar

The Status Bar displays messages and current connection status information. If the user is viewing data recorded as files on a CD-ROM or stored on the user's PC, Path Name information is displayed on the status bar.

Example of the Status Bar showing the path and name of the file currently being displayed.

The Button Panel

1. **Play Backward button:** Click on this button to playback video in reverse.
2. **Stop button:** Click on this button to halt all playback operations. The Play Pointer Slider Bar moves to the start of data.
3. **Play Forward button:** Click on this button to playback video.
4. **Single Frame Rewind button:** Click on this button to rewind the video a single frame.
5. **Pause button:** Pauses playback until the Pause button is pressed again. Clicking any of the buttons, except Stop will also resume playback. The Play Pointer slider bar stays at the current position while paused.
6. **Single Frame Advance button:** Click on this button to advance the video a single frame.
7. **Rewind button:** Click on this button to perform high-speed reverse playback.
8. **Fast Forward button:** Click on this button to perform high-speed playback.
9. **Connect/Disconnect button:** Click on this button to display the address book (after a successful login).



10. **Number buttons:** Press any of these buttons to call up individual cameras for display. When connected to a unit that has more than 16 cameras, right-clicking over the number buttons will display numbers 17 through 32. Right-click again to return to cameras 1 through 16.
11. **Single Camera Display Size:** Choose from Small, Medium, or Large.
12. **Multiscreen button:** Choose from a Large 4-way, Medium 16-way, or Large 16-way.

The following **Dome Pan/Tilt/Zoom** controls are detailed in greater depth in **Section 5 Dome Pan/Tilt/Zoom Controls.**

13. **Iris Open and Close:** Click and hold the Iris Open or Close buttons to lighten or darken the image, and adjust for changing light conditions.
14. **Focus In and Out:** Click and hold the Focus In or Out buttons to operate lens focus.
15. **Zoom In and Out:** Click and hold the Zoom In or Out buttons to operate the camera lens zoom.
16. **Auto Zoom In:** Click the **Auto Zoom In** button, then click and draw a rectangular window on the currently displayed image with the left mouse button. Once the button is released, the camera will automatically zooms to the drawn window. If the window size is beyond the camera's zoom capabilities, the image will center on the middle of the defined window at the maximum zoom-in position.
17. **Return – Previous button:** Click on this button to return the camera to the PTZ position that was selected prior to the last Auto Zoom In command.
18. **Zoom All:** Click on this button to zoom all the way out on the currently selected camera.
19. **Set Preset:** Navigate the camera to the desired location, select the desired preset from the drop down list box, then click **Set**.
20. **Go To:** To send the camera to the desired preset, select the preset from the drop down list box, then click **Go To**.
21. **Preset:** Drop down list of preset camera positions created with the **Set Preset button**.

Activated Button Indicator

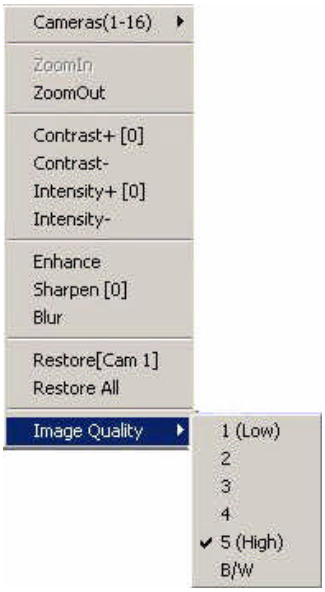
When the Play Forward, Play Reverse, Fast Forward, and Rewind buttons are clicked, the icon color changes from black to green. When the Pause button is clicked, the icon color changes from black to red.

The Text Data Display Box

The Text Data Display Box shows any encoded text associated with the current video images.

Image Control Pop-up Menu

Right-click on any single camera display and the Image Control Pop-up menu appears. Select any command to perform the selected action on the current image. Once the image enhancements are applied, doing a "restore" will not display the original image. This "restore" will be applied to future images from that camera. The enhancements only affect the way the image is viewed and do not affect the actual image itself.



The following video enhancements are available on this menu:

- Image Selection by Camera Number
- Zoom In and Zoom Out.
- Contrast
- Intensity
- Enhance
- Sharpen
- Blur

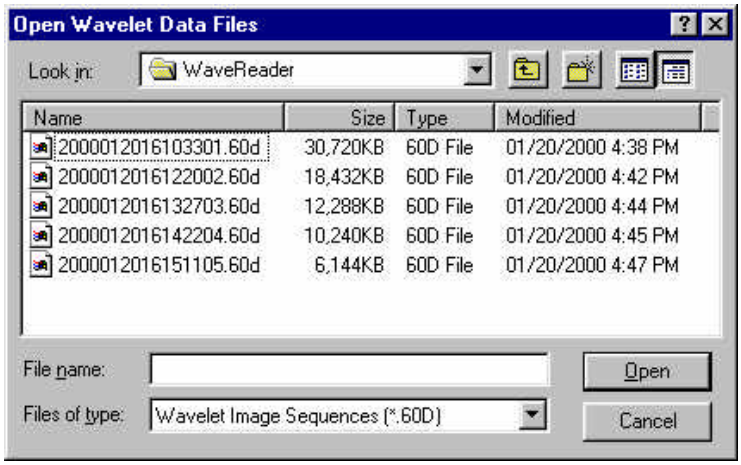
- Restore (Current Camera)
- Restore All
- Image Quality from 1 (low) to 5 (high) and B/W.

Once the displayed image is changed, the image quality setting returns to the previously defined image quality setting.

3.3 The File Menu

Open

From the Menu Bar, click **File**, then click **Open** or click the **Open File** icon on the Icon Bar. The Open Wavelet Data Files window will appear (depending on the operating system, some windows may differ from the one shown here).



1. Select the Drive and the Directory (normally the CD-ROM drive) that contains the video files archived from the archiving device.
2. The long file names identify the Time and the Date of the recording, and the order in which they were placed on the storage medium.

Example File Name: 2000012016103301.60d

YY	MM (Month)	DD	HH	MM (Minute)	SS	No.
2000	01	20	16	10	33	01

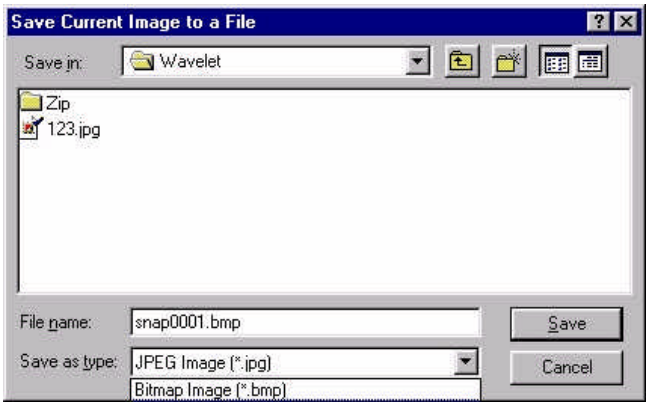
.60d is a Wavelet video clip in a proprietary data format. The file sizes are in multiples of 2MB, and are typically used for archiving longer sequences.

.60h is a Wavelet header file that automatically turns on the disk analysis screen during Play mode of a Wavelet video clip. The .60h file must be present for the Disk analysis Screen to operate.

RDB File saves images in a database, and is typically used for shorter video clips.

Save Image

From the Menu Bar, click **File**, then click **Save Image** or click the **Save File** icon on the Icon Bar. The following window will appear.



The benefit to this method as opposed to using the Snapshot icon is that images can be saved with a more appropriate file name that better describes the picture's content rather than letting the software automatically assign a numeric sequence file name.

The disadvantage to using this method is that playback operations continue while the user is interacting with the dialog box and specifying the file name. If the user misses seeing portions of the video, it will be necessary to replay those sections again so that they may be viewed without further distractions.

Print Image

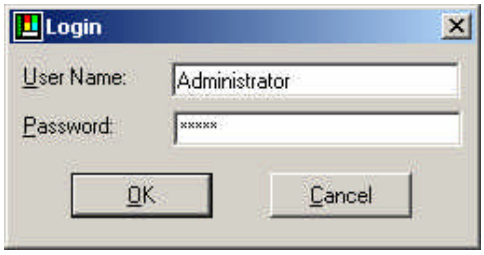
From the Menu Bar click **File**, then **Print Image** or click the **Print Image** icon on the Icon Bar. The Print Image menu allows the user to print whatever is displayed in the Main Viewing area.

Log In

From the Menu Bar click **File**, then **Log In** click the **Log In** icon on the Icon Bar. The Login screen will appear. The default Administrator password is 12345.

It is recommended that this password be changed after installation is complete. As a security measure, store the password in the administrator's secure files or in a limited access area.

After a successful login the Setup menu becomes available in the Main Menu bar



Exit

From the Menu Bar click on **File**, then **Exit**. This command terminates the WaveReader program and closes all associated windows.

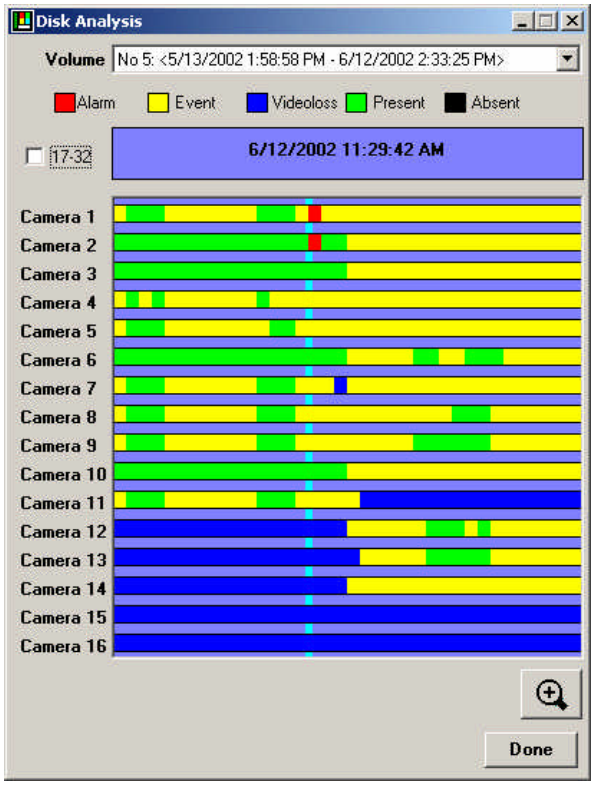
3.4 The View Menu

The View menu appears between File and Setup menus.

The following commands are available in the View menu:

- **Disk Analysis Screen:** This command displays the Disk Analysis screen.
- **Display ATM/POS Text Log:** This feature allows the user to view any ATM or POS text associated with the video.

The Disk Analysis Screen



The **Volume** drop down list box provides for selection of alternate hard disks if available.

The **blue area** below the legend displays the time/date of the disk area pointed to by the mouse cursor. When selecting a block of data this area will display the start and end time and date of the selected block.

Horizontal color bars indicate the following:

- **Green:** Standard Video
- **Black:** Camera Disabled or Absent
- **Red:** Alarm Mode
- **Blue:** Video Loss
- **White:** End of Disk
- **Yellow:** Events

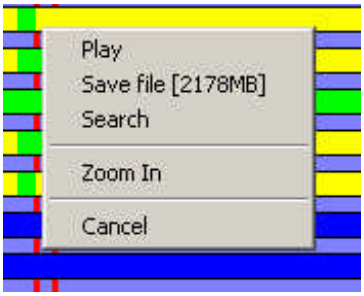
Vertical Color cursors indicate the following:

- **Light Blue:** Play indicator, positioned by progress slider bar.
- **Red:** Left and right markers to assist with defining boundaries for data retrieval, etc. Click and Drag to the right to place the red cursors in the desired position.

Zoom In and Out using the **Magnifying Glass**, or follow the prompts after clicking on the data bars.

Clicking the left mouse button in the Disk Analysis screen displays a Pop-Up menu with the following commands:

- Play
- Save File (with selected file size)
- Search (Opens the Event Search Filters Screen)
- Zoom In
- Cancel



To retrieve previously recorded video, click and drag (with the left mouse button) over the data bars. Use the magnifying glass to get a more detailed selection. The Pop-Up menu will display the estimated file size of the selected video.

Once a selection has been made the above commands may be executed.

The Volume drop down list box

When looking for video from a particular date on the drop down list box, please note that the oldest data is continually being recorded over with the newest video. One of the listed disk volumes will contain both the oldest and newest video data.

For example: If searching for video on 5/15/2002, you should select volume No.6 not volume No.5.

Saving A File From The Disk Analysis Window

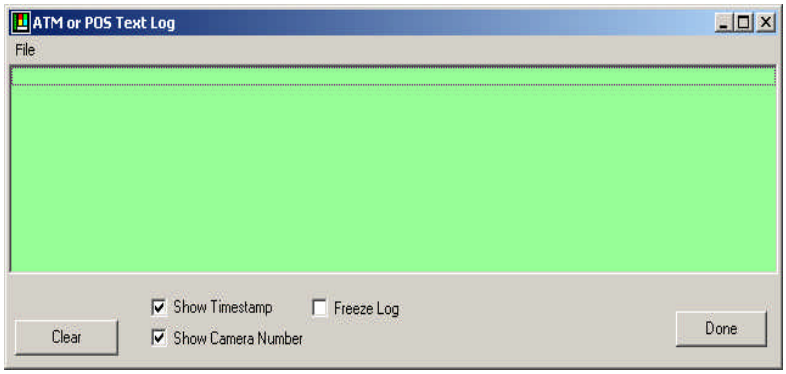
This feature is only available during an ethernet connection.

1. Click and drag the mouse to select the desired data you wish to save. Use the Zoom In and Out function to select smaller blocks of data to save. Click and drag the vertical red bars to alter the size of the selected information.
2. Click **Save File** in the pop-up menu. The Save an Image Sequence window will appear.
3. Select the desired file name and location, then click Save.

Display ATM/POS Text Log

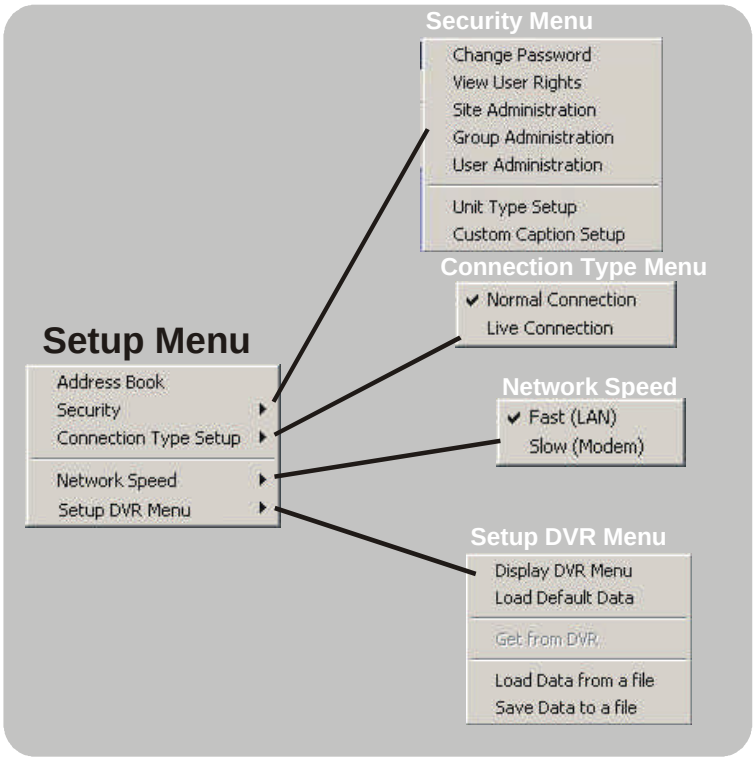
WaveReader allows the user to view any ATM/POS text associated with video while connected to a unit or playing back video from a .60d file.

Select **View → Display ATM/POS Text Log** from the Menu bar. The ATM or POS Text Log will appear.



3.5 The Setup Menu

The Setup menu is not enabled when the program first starts. It is enabled only after a successful login.



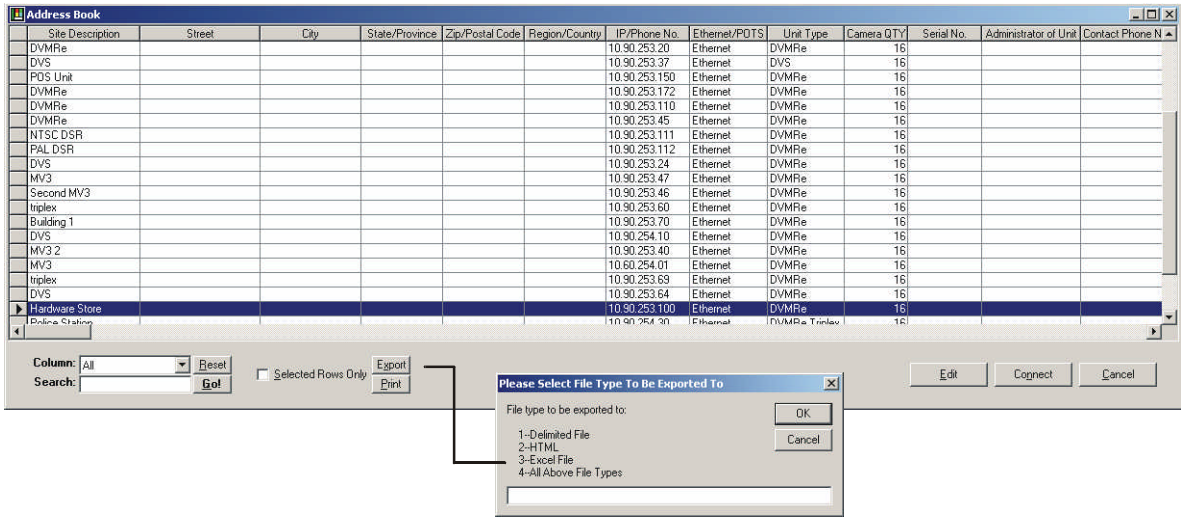
The following menus are disabled after a connection is established between WaveReader and a Device:

- The Address Book
- Connection Type Setup
- Security

The Address Book

The Address Book is a comprehensive relational database consisting of the following fields:

- Site Description
- Street Address
- City
- State/Province
- Zip/Postal Code
- Region/Country
- IP Address/Phone Number
- Ethernet/POTS (Connection type)
- Unit Type (Disk Array, DVR, etc.)
- Camera Quantity
- Serial Number
- Administrator of Unit
- Contact Phone Number
- Notes (4 fields)



The lower portion of the Address Book contains groups of command buttons. See illustration above.

Use the **Column/ Search** fields to perform searches by category and keyword.

Use the **Export** button to send the Address Book data into one of or all the following filetypes:

- A Delimited File
- An HTML File
- An Excel File

Use the **Print** button to send the Address Book data to the default printer in a spreadsheet-like format.

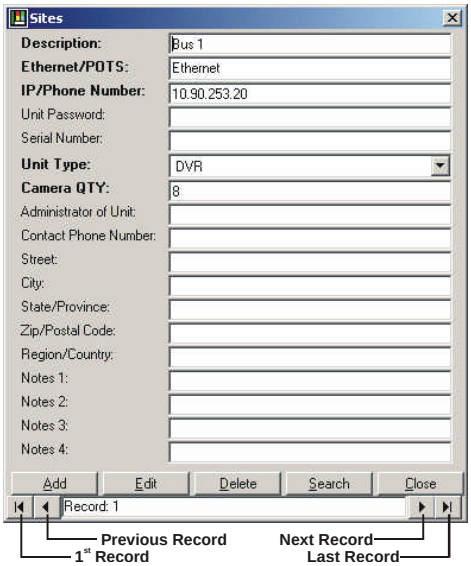
Connecting to a Site/Device via the Address Book

Highlight a selection on the Address Book and double-click or click on the **Connect** button. WaveReader will attempt to connect to the device/site using the parameters specified in the database. See **Site Administration** for information on creating and editing the Address Book. If WaveReader cannot connect to the device/site it will display a timeout message. Verify that the parameters in the Address Book are correct. If the parameters are correct verify that the PC can connect to the Internet or to another ethernet connected device.

Editing the Address Book

To edit the Address Book, click on the **Edit** button. The Site edit window will appear. This window allows the user to:

- **Add** new device/site information. Clicking on ADD also provides the option of importing an Address Book that has been saved as a .lst file from a previous version of WaveReader
- **Edit** existing records.
- **Delete** existing records.
- **Search** through current records by the Site Description, IP/Phone Number, Street, City, State/Province, Zip/Postal Code, or Region/Country fields.



3.6 The Security Menus

Security Shell Overview

The Security Shell is designed to provide controlled access to multiple Digital Recorder units by multiple users. The following definitions are used in the discussion below:

- **User:** A person that uses the WaveReader to review data stored on a Digital Video Recorder (DVR).
- **Group:** A collection of Users that have specific access rights to a specific list of Sites.
- **Site:** A specific Digital recorder with a unique IP address.

Users are assigned to specific Groups. Any number of Groups can be defined. Every user can only belong to one Group. The default Group is called the Administrator group and can not be deleted from the database. Users that are assigned to the Administrator Group have full access rights to all Sites in the Database. The Administrator is the default user in the Administrator group. Examples of Groups names would be: Management, Engineering, Supervisor and Shipping.

Only Users who belong to the Administrator Group have access to all administrative functions – all other users are only allowed to change their own passwords and to view their user rights.

All groups except the Administrator group have specific sites that are associated with them. Every Site in the database can be associated with any number of Groups. A Group also has access rights that can be set up that apply to all Sites in the Group. A Supervisor Group for example might have the right to do Pan, Tilt and Zoom on all Sites associated with the group.

A Group may also be set up to have unique access rights on a per Site basis. The administrator can specify for each site belonging to the group, which cameras can be viewed by the group's users. For example, the users that belong to group 'A' can only view cameras 1 to 8 from a specific site whereas users belonging to Group 'B' are only allowed to view cameras 9 – 16 from the same site.

Using the Security database from multiple computers.

When WaveReader has been installed on several networked computers, it is possible to use only one central database that can easily be maintained by the Administrator.

During the installation of WaveReader on a clean Computer, the Security Database is copied to the WaveReader folder. The filename is WRSecurity.mdb. This file can be moved to a drive on the network that can be accessed from the PC. The WaveReader then has to be instructed where the database is located. This is done as follows:

> Using any ASCII editor like Notepad, open the file BWVAL.DAT that is located in the WaveReader folder. Edit or add the following line to reflect the new position of the database on the network: (The part following the '=' is the network path of the WRSecurity.mdb file).
>
> SECURITY_DB_PATH_AND_FILENAME = P:\Security\WRSecurity.mdb

Be sure to remove the letters "REM" that may come before the string. The next time WaveReader is launched it will get its Security settings from the network database. Several Computers can be set up this way to simultaneously access the same database file.

If the WRSecurity.mdb file is not moved to the network, each WaveReader will simply access the database on its local hard drive and the site and user information will have to be added to every database individually.

Additional Notes.

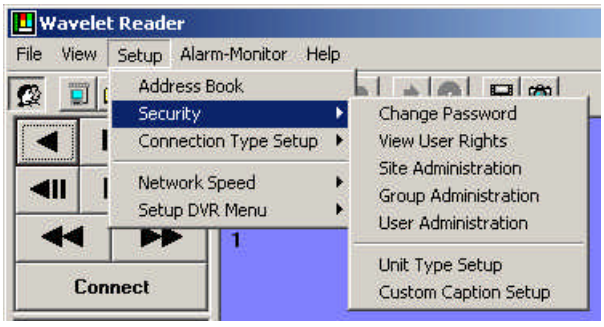
It is recommended that the Administrator always add at least 1 user beside himself to the Administrator group. If he forgets his password, the other user can still log in and reset the Administrator's password.

Uninstalling WaveReader from a PC will not remove the BWVAL.DAT file or the WRSecurity.mdb database file from the WaveReader folder. When the new WaveReader is installed, a user will be able to log into the old database without any additional setup.

Security Menus

WaveReader features extensive security and administrative options. From the Menu Bar click **Setup**, then **Security**. The following options are available:

- Change Password
- View User Rights
- Site Administration
- Group Administration
- User Administration
- Unit Type Setup
- Custom Caption Setup



Change Password

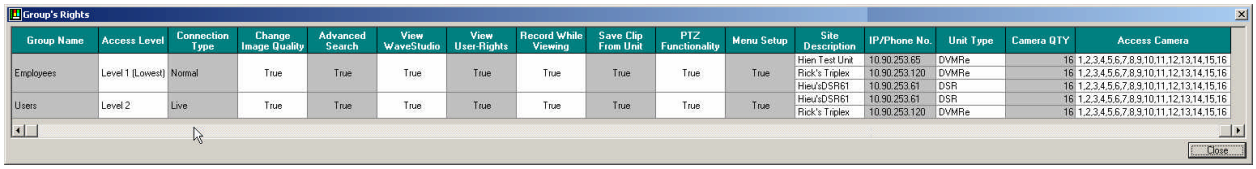
It is recommended that the default password be changed after installation is complete. By default, the password is 12345 when the software is first installed. As a security measure, store the password in the administrators secure files or in a limited access area.

To change the Password, select **Setup → Security → Change Password** from the menu bar. The Change Password requester box will appear.

- Click in the box labeled **New Password**.
- Type in the new password.
- Click in the box labeled **Confirm Password**.
- Type in the new password again.
- To complete the selection, click the OK button. If the new password was accepted the Password Accepted box will be displayed.
- If the Cancel button is chosen, the password will not be changed.

View User Rights

To View User Rights, select **Setup → Security → View User Rights** from the menu bar. The Group's Rights window will be displayed. This window provides a quick overview of User and Group rights that have been setup in the **Group Administration** database. No editing functions may be performed in this window.



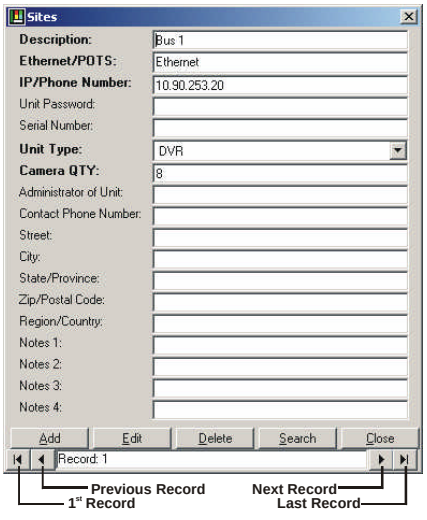
Site Administration

Site Administration provides all the data required for the creation of the **Address Book**. To access Site Administration, select **Setup → Security → Site Administration** from the menu bar. The Sites Edit window will be displayed.

Creating the Site Address Book

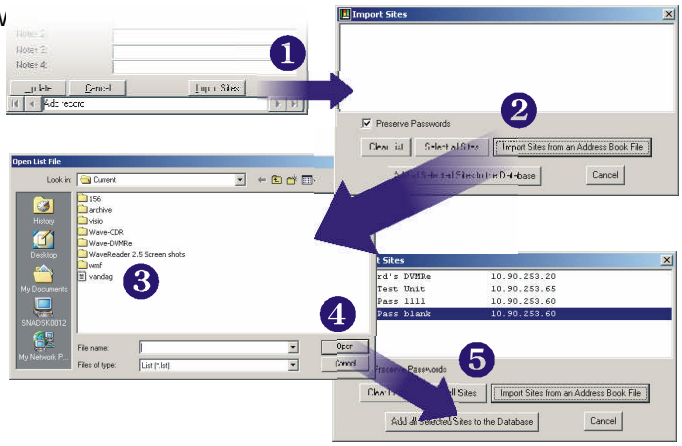
This window allows the user to:

- **Add** new device/site information. Required fields are **Bolded**. Clicking on ADD also provides the option of importing an Address Book that has been saved as a .lst file from a previous version of WaveReader
- **Edit** existing records.
- **Delete** existing records.
- **Search** through current records by the Site Description, IP/Phone Number, Street, City, State/Province, Zip/Postal Code, or Region/Country fields.



Importing an Address Book (from versions of WaveReader earlier than 2.5)

Click on the **ADD** button in the Sites window. This modifies the button bar on the bottom of the window to include an **Import Sites** button. Follow the steps below to import the Address Book.



1. Click on the **Import Sites** Button. This brings up the Import Sites windows.
2. Click **Import Sites from Address Book File**. This brings up the Open List File window.
3. Navigate to the folder in which the **.lst** file resides.

NOTE: A .lst file may be created using any text editor such as Notepad. See the section titled **Creating an Address File** on the following pages.

4. Select the .lst file and click **Open**. This places the address list in the Import Sites window.
5. Click **Add all Selected Sites to the Database**.

Creating an Address File (for basic information)

The Address Book file may be created using any text edit such as Notepad. A sample address book may look like the following. Be sure to save or rename the file with the extension, **.lst**. Once created the user can import the file using the previous procedure.

The first line (1000): Indicates a version number used by WaveReader to identify this list. Do not edit this number.

The second line (3): Indicates the number of addresses in the list. Change this number only if the number of address in the list changes.

```
1000
3
0,"10.90.253.129","Alex's unit","12345"
0,"10.90.10.110","demo room","54321"
0,"10.90.253.28","Test unit",""
```

The address line indicates the following 4 items

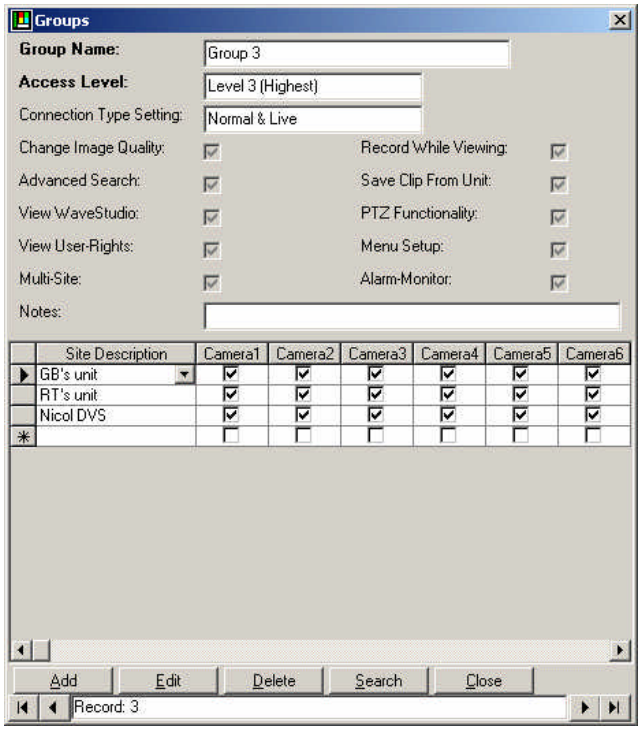
- This unit is connected via ethernet (indicated with a 0), or this unit is connected via a modem (indicated with a 1).
- The IP address or telephone number of the remote unit (example IP address show above "10.90.253.129")
- The name given to the remote unit (Example: "Alex's unit")
- The password for connecting to the remote unit (Example: "12345"). This field is not always populated.

Group Administration

Group Administration provides all the parameters required to set up various Group rights and access levels. To access Group Administration, select **Setup → Security → Group Administration** from the menu bar. The Groups Edit window will be displayed.

This window allows the user to:

- **Add** new Groups, set their Access Level and Connection Type. Set their Group Rights and the Sites they have access to.
- **Edit** existing records. Clicking in the Edit button adds a **Show Users** and **Add All Sites** Button on the Button Bar. The Show Users button displays all users in the currently selected group. The Add All Sites button will add all available Sites to the selected group.
- **Delete** existing records.
- **Search** through current records by Group Name, Access Level and Connection Type fields.



Access Levels

The Access Levels are priority ratings used by the unit to determine if a currently established connection should terminate when a user with a higher priority level requests a connection.

If the current user has a lower access level, the unit will break its connection after sending a message to the users PC indicating that their connection has been terminated.

The status bar at the bottom of the WaveReader main window will also indicate that the **unit terminated the connection**.

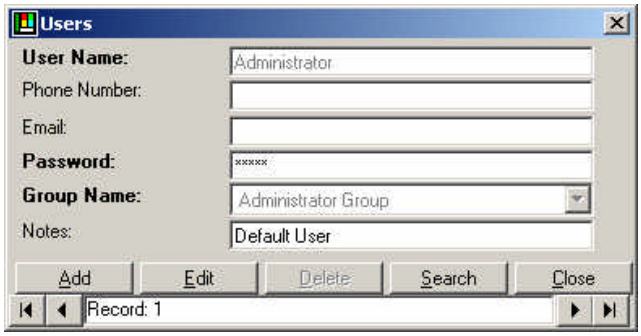
There are three levels of access that can be set up in WaveReader:

- **1** (lowest)
- **2**
- **3** (highest)

User Administration

User Administration provides all the data required for adding Users and user information into various Groups. The users will have the rights and access levels of the group to which they are assigned.

To access User Administration, select **Setup → Security → User Administration** from the menu bar. The Users Edit window will be displayed.



This window allows the user to:

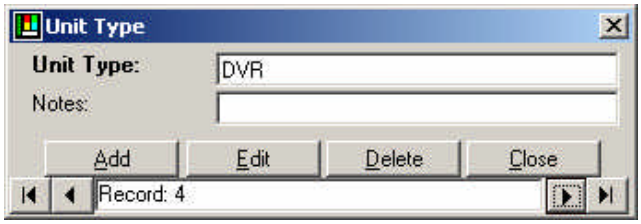
- **Add** new users.
- **Edit** existing users.
- **Delete** existing users.
- **Search** through current records by User Name, Phone Number, Email Address, and Group Name.

Unit Type Setup

Unit Type Setup provides the data required for Unit Type field in the Site Administration window. To access Unit Type Setup, select **Setup → Security → Unit Type Setup** from the menu bar. The Unit Type Edit window will be displayed.

This window allows the user to:

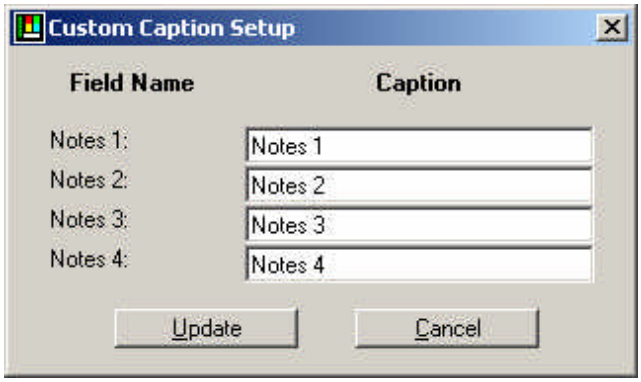
- **Add** new devices.
- **Edit** existing devices.
- **Delete** existing devices.



Custom Caption Setup

The Custom Caption Setup menu allows the user to change the 4 provided Notes fields into user labelled fields. To access the Custom Caption Setup, select **Setup → Security → Custom Caption Setup** from the menu bar. The Custom Caption Setup Edit window will be displayed.

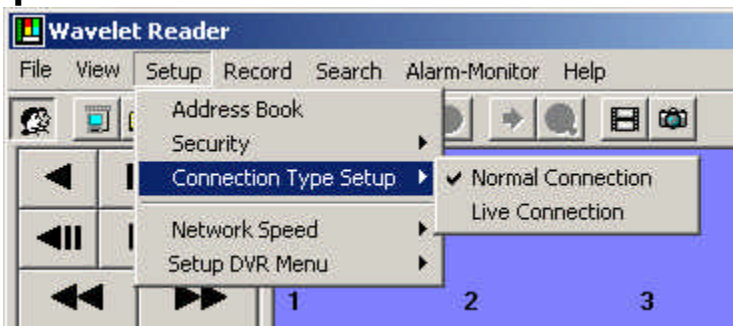
To relabel a field name simply highlight the current label, type in the new designation and click on the **Update** button.



3.7 Connection Type Setup

Two types of Ethernet connections can be established between the WaveReader software and a unit.

- **Normal Connection**
- **Live Connection**



Normal Connections

When a Normal Connection is made, the user may select between two operating modes:

- **View Playback Mode:** Allows the user to view and search recorded data from the units hard disk.
- **View Live Mode:** Allows the user to view live images. View Live Mode is the default mode.

View Live Mode

Live images from the connected unit will display along with the current Date, Time and Alarm status of the unit.

The following features are active in Live Mode:

- The Pause button functions as Stop button.
- The Pause, Disconnect, Multi-Camera, Camera Size, and Camera buttons are black and remain active. The remaining buttons turn gray and are inactive.
- The View Live command is replaced with the View Playback command.
- The current Date and Time appears.
- Multi-Camera live images can be viewed in 16-Way Large or Medium formats, or 4-way Large format.
- Single Camera live images can be viewed in Large, Medium, or Small formats.
- Clicking any camera image will display that camera image in full screen.
- A red letter "A" opposite the camera number means an alarm for that camera.

View Playback Mode

To enter View Playback Mode, select **Setup → View Playback** from the menu bar.

- Live images for each camera stop updating.
- The Disk Analysis Screen appears (Section 3.4).
- All buttons return to black.
- The View Playback command is replaced with the View Live command.
- WaveReader is still connected to the unit.

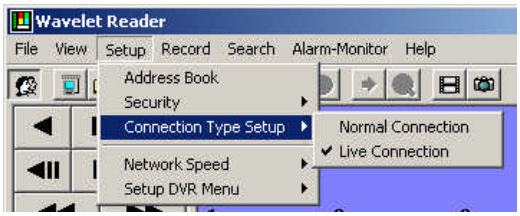
Return to Live Mode

When viewing live images is desired, the software may be switched back to the View Live mode via the Setup menu.

This option is added to the Setup Menu only after a Normal Connection has been established. Along with the images being displayed, the current Date, Time and Alarm status of the unit are also shown.

To enter View Live Mode, select **Setup → View Live** from the menu bar.

Live Connections



When a Live Connection is made, the user is limited to viewing live images only. The user can establish a Live Connection even if a different user has established a Normal Connection.

To establish a Live Connection, select **Setup → Connection Type Setup → Live Connection** from the menu bar.

No disk analysis screen is displayed.

3.8 Network Speed Setup

There are two Network Speeds that can be setup for connections between the WaveReader software and the unit.

- Fast speed (LAN).
- Slow speed (modem).

Fast (LAN) Connections

Most Local Area Networks and Wide Area Networks have a large bandwidth of (typically 10 Megabit or 100 Megabit). When the default Fast (LAN) option is chosen, the WaveReader software will download large amounts of information from the unit such as the information required to display the Disk analysis window. This normally takes only a few seconds when bandwidth is not restricted.

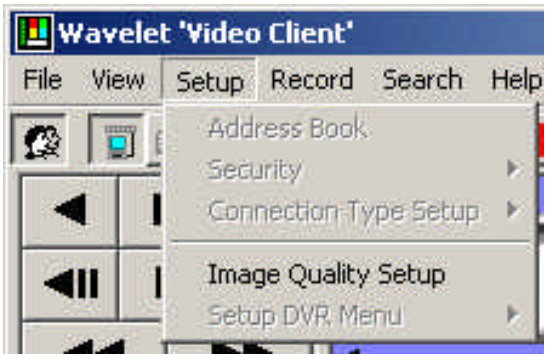
Slow (modem) Connections

When the Slow (modem) option is selected, it is normally because the bandwidth is limited. This causes delays in getting information through the network. Unless the user's Network Administrator has intentionally restricted the amount of available bandwidth, this type of limitation may be due to network connections established through modem connections or ISDN connections. In this situation it is not always advisable to burden the network with so much data.

When the Slow (modem) option is chosen the WaveReader does not request the large amount of data needed to display the Disk Analysis window. Playback starts at the beginning of the recorded data and proceeds to the end.

In order to compensate for the missing Disk Analysis window, additional search capabilities have been incorporated within the WaveReader software. These will be covered in Section 6.

3.9 Image Quality Setup



Once a connection has been established between the PC and a unit, the Image Quality Setup option becomes available.

Clicking the left mouse button on this option causes the Image Quality Setup window to open.

This window allows the user to select the quality level for each type of display available in the WaveReader software.

Quality levels are adjustable from Low to High. This setting instructs the unit on how much video content data is required to display an image with the selected quality level.

Lower quality levels are more suitable for images displayed in smaller formats because the loss of fine detail in the image is not as noticeable. Higher quality levels are required for images displayed in larger formats.

The user also has the option of having the image sent as a monochrome (B/W) picture.

The update rate in pictures per second is improved by lowering the quality level or by switching to monochrome since both require less actual data to be transmitted. When both settings are combined, an even greater update rate can be achieved.

This is especially useful when limited bandwidth is available or restrictions on bandwidth use are implemented (as in a POTS connection).

The Image Quality Setup Window

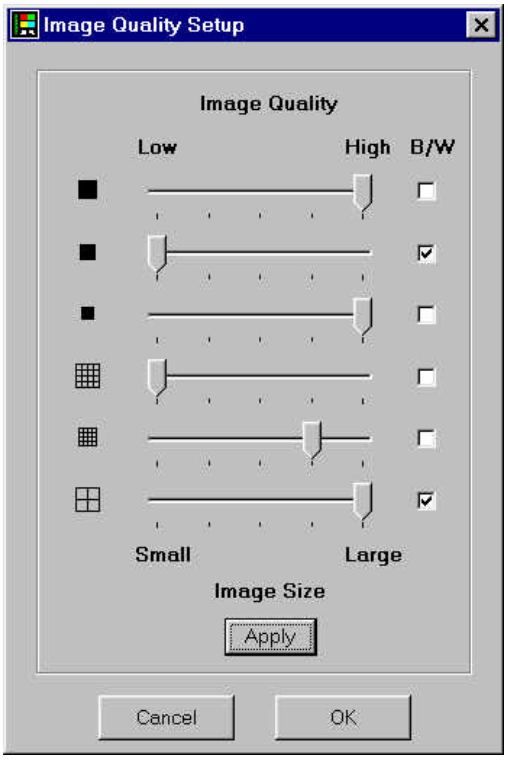
Use the slider bars to adjust the quality settings for each of the display formats.

Place a check mark in the B/W box for each format if pictures should be sent as monochrome images.

Click the Apply button to temporarily apply the settings to the currently displayed screen.

When the settings are correct, click the OK button to save the changes or click the Cancel button to discard the changes and return the settings to their previous levels.

Clicking on either Cancel or OK will clear this window and return the WaveReader software to normal operations.



3.10 Setup DVR Menu

Configuring The DVR Menu System Remotely

WaveReader allows the user to access and make changes to the main menu system of a remote multiplexer. To access the menu system remotely, the user must establish a Normal Connection via the ethernet. The menu features cannot be accessed from a Live connection. For detailed information about configuring the menu system, see the user manual for information specific to the multiplexer you are trying to configure.

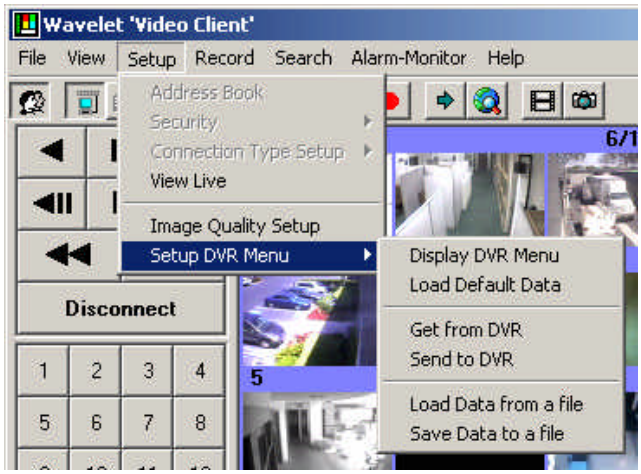
POTS Note: The following menu items cannot be changed remotely if using a POTS connection.

- Factory Language
- Keyboard Lock
- Output Relays
- Fullscreen Alarm
- Baud Rates
- Auto Camera Disable
- Alarm Record Mode
- Record Lock

Setup DVR Menu

From the Menu bar, select **Setup – Setup DVR Menu**. Select from the following options:

- Display DVR Menu
- Load Default Data
- Get from DVR
- Send to DVR
- Load Data from a File
- Save Data to a File



Display DVR Menu

- From the Menu bar, select **Setup – Setup DVR Menu – Display DVR Menu**.
- Select the number of cameras for the multiplexer you are configuring.

Loading Default Data

- From the Menu bar, select **Setup – Setup DVR Menu – Load Default Data**.
- Select the number of cameras for the multiplexer you are configuring.

Get from DVR

Use this feature to download current menu settings from the selected unit, modify them, then return them (Upload them) to the unit.

- From the Menu bar, select **Setup – Setup DVR Menu – Get From DVR**.

Send to DVR

This allows the user to configure the menu system of a remote unit by uploading a file containing the menu settings.

- From the Menu bar, select **Setup – Setup DVR Menu – Send to DVR**.

Load Data From A File

Load multiplexer menu configuration data, so that it may be uploaded to the unit.

- From the Menu bar, select **Setup – Setup DVR Menu – Load Data From A File**.

Save Data To A File

This allows the user to save the menu settings of the selected DVR, so that they may be used as backup, or copied onto another unit.

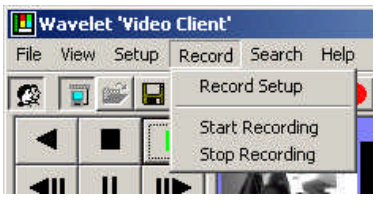
- From the Menu bar, select **Setup – Setup DVR Menu – Save Data To A File**.

3.11 The Record Menu

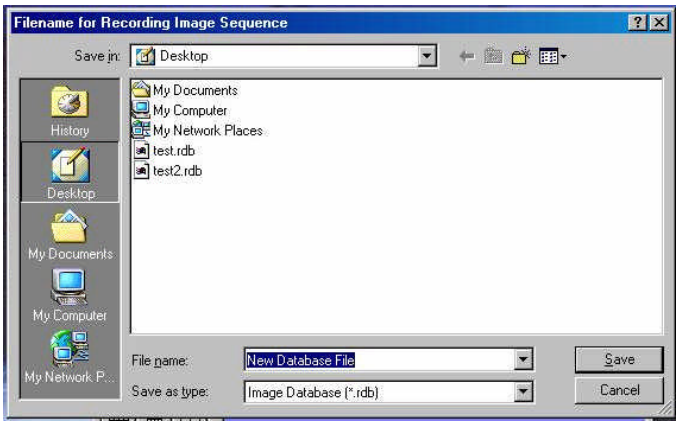
WaveReader allows the user to record directly to the hard disk via the ethernet connection.

To begin Recording:

- Select **Record → Record Setup** from the Menu bar. A standard Save As menu called Filename for Recording Image Sequence will appear.



- Create an ".rdb" file to record the information to. Type the desired file name in the File Name box. Click the Save button.
- Begin playback from ethernet.
- Select **Record → Start Recording** from the Menu bar to begin recording the images displayed in the Main window.
- Select **Record → Stop Recording** from the Menu bar to stop recording.



NOTE

Only images actually being displayed will be recorded. Recordings will be made using the quality levels set for the images displayed (see section 3.9).

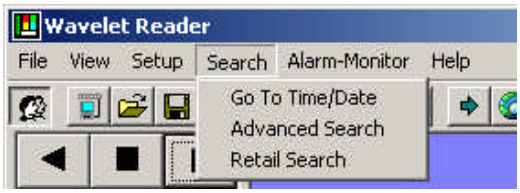
Playing Back From .Rdb File

To playback the recorded data described in the previous section:

- Select **File → Open** from the Menu bar. A window called Open Wavelet Data Files will appear.
- Select Wavelet Image Recordings (.RDB) from the Files of Type box.
- Select file location from Look in box or type file name in File Name box.
- Click on the **Open** button.
- Playback file by clicking the **Play** button.

3.12 The Search Menu

Once a Normal Connection has been established between the PC and a unit, the Search option will appear in the Menu Bar.



The user may select from either:

- **Go To Time/Date:** This command allows the user to perform quick Go-To searches based on the Date, Time of day, or both Date and Time. This command instructs the unit to begin transmitting recorded images from the closest point to the time and/or date selected.
- **Advanced Search:** This command allows the user to search for Events based on a combination of Time, Date, Camera, and/or a specific piece of text data.
- **Retail Search:** This command allows the user to search through text recorded in 60D or RDB Files. It is used with recordings made from the text output of Point Of Sale (POS) devices. This option only becomes available when playing 60D or RDB files.

Using the Go To Time/Date Command

The Select Custom Play Position slider control commands the unit to begin sending recorded images based on a percentage from the beginning to the end of recorded data. The window below indicates that the user has decided to view images beginning at about 8.6% in from the beginning of all recorded data.

Use the pull down selection lists to select the Month and Year values.

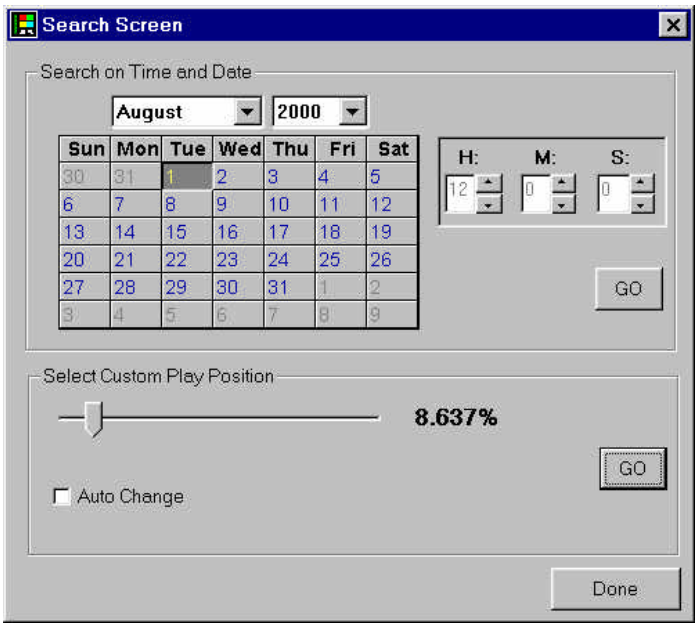
Click on one of the Calendar Day buttons to select the day.

Use the Up and Down scroll controls to assist in setting the Hours (H) Minutes (M) and Seconds (S).

Use the slider bar to adjust the percentage setting for Custom Play Position.

Click on GO to command the unit to begin sending the images.

Clicking on Done will clear this window and return the WaveReader software to normal operations.



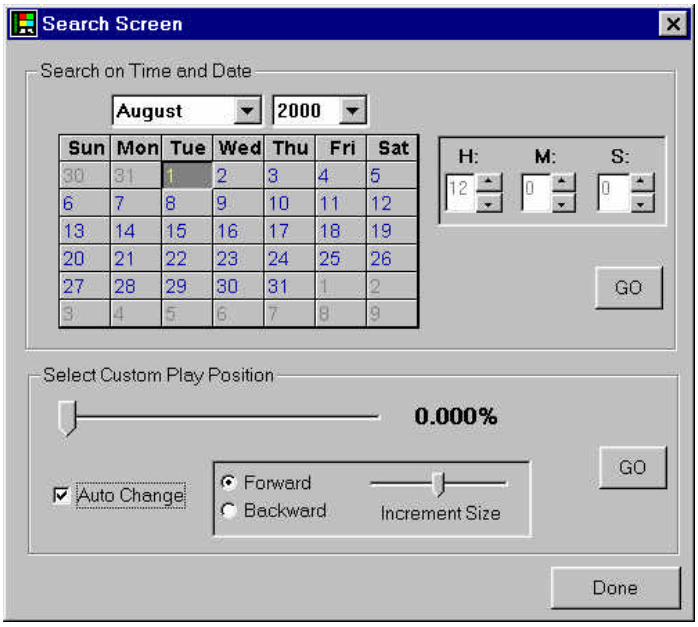
Placing a check mark in the Auto-Change box causes the Custom Play Position point to advance either forward or backward by an adjustable level each time the GO button is clicked.

The Custom Play Position will move and the percentage indication will change each jump.

Click on Forward or Backward to determine the direction of each jump.

Use the Increment Size slider bar to adjust the size of each successive jump when the GO button is pressed.

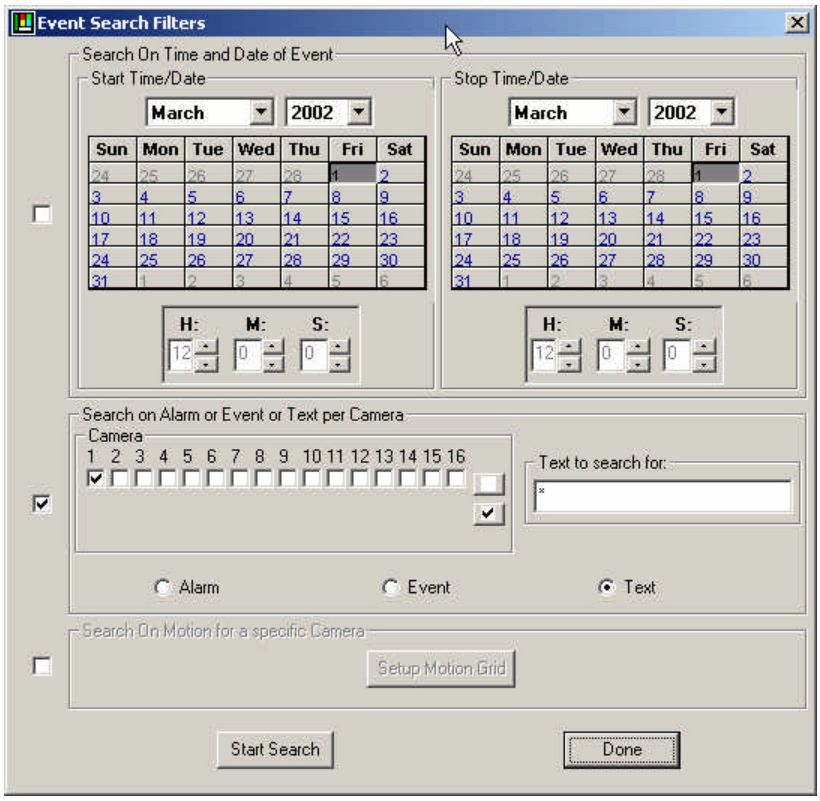
Clicking the Done button will clear this window and return the WaveReader software to normal operations.



The Advanced Search Command

This command allows the user to search for Events, such as RS-232 based text data from an ATM transaction. The following options are available:

- Search On Time and Date.
- Search on Alarm/Event/Text per camera.
- Search on Motion for a specific camera.



Searching by Time and Date:

- From the Start Time/Date section of the window, select the Month and Year from the drop-down list box. Select a Start Day by clicking on the calendar and highlighting a day. Use the Up/Down Arrow buttons to select the desired Start Time.
- From the Stop Time/Date section of the window, select the Month and Year from the drop-down list box. Select an End Day by clicking on the calendar and highlighting a day. Use the Up/Down Arrow buttons to select the desired Stop Time.
- Select the check box, located to the left of the Start Time/Date calendar, to activate the Search Time filter.

Searching by Camera:

- Select any number of cameras to search by selecting the check box below the camera number. To select all cameras, click the Check All button located to the right of the number 16 camera.
- To clear the checked cameras, click the Clear Checks button, located directly above the Check All button. The Number 1 camera will remain checked. One camera must remain checked at all times.
- Click the Alarm or Event option button to specify what type of information to search for.
- Select the check box, located to the left of the Camera check boxes, to activate the Search Camera filter.

Searching for Text:

- Click the Text option button to display the Text to Search For box.
- Enter the specific string of text you wish to search for, into the window.

- Select in the check box, located to the left of the Camera check boxes, to activate the Search Text filter.

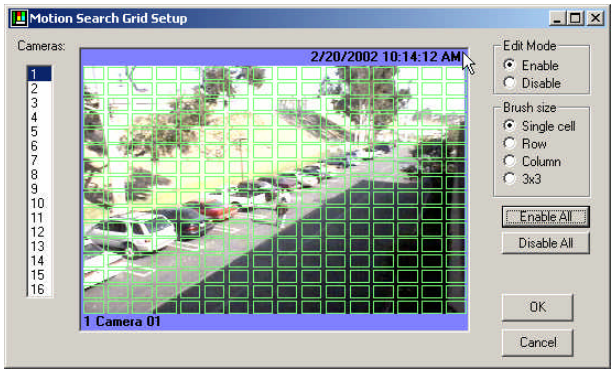
Searching by Motion for a Specific Camera (DVR Triplex only):

- Select the check box, located to the left of the Search On Motion for a Specific Camera section.
- Click on the Setup Motion Grid Button.

The Motion Search Setup Screen will appear.

Use this screen to setup motion search by camera and screen area.

Enabled grid sections are displayed in yellow, disabled sections in red.



- Select a Time/Date period if desired (optional).

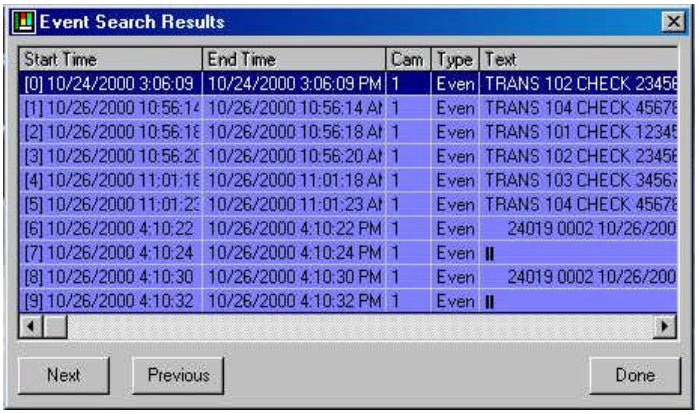
Click the **Start Search** button to begin the search, or click the **Done** button to return to the Main screen.

Search Results

After the Start Search button is pressed, the unit will search for the specified events. After a short time, the Event Search Results window will appear.

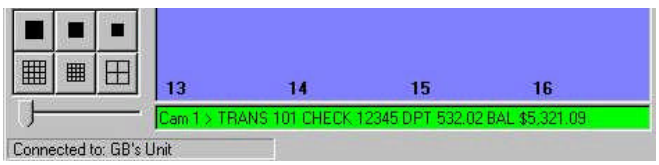
The Event Search Results window displays the:

- Start and Stop Time/Date.
- The Camera Number.
- The type of information (Alarm, Event, Normal, Motion).
- The Text Data.



This window will display a maximum of 99 items. To view additional items, click the Next or Previous buttons. Clicking directly on a line item will cause that item to be displayed on the main screen.

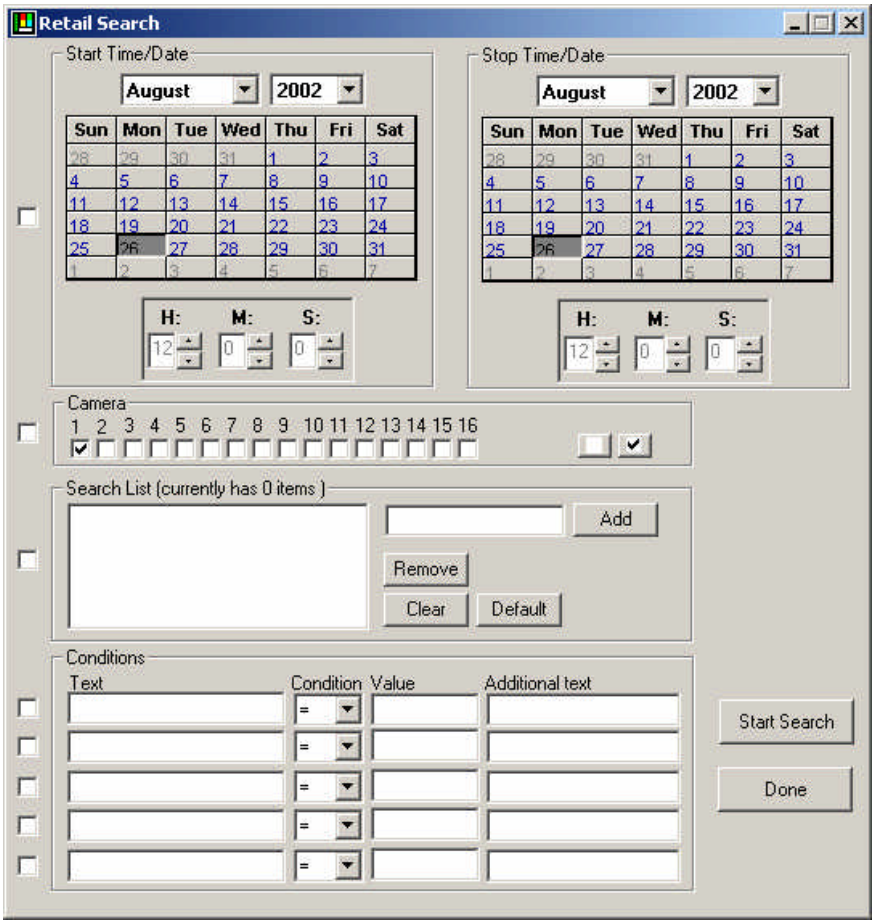
The text data is displayed near the bottom of the Main window in the Text Data Display box.



The Retail Search Filter Window

The Retail Search Filter is an advanced method of searching through text recorded in 60D or RDB Files. It is used with recordings made from the text output of Point Of Sale (POS) devices.

The Retail Search screen allows the user to enter up to 25 strings to search for simultaneously. Once a search string list has been entered, the operator can select any subset of the strings to base the search on.



Searches can be limited to a specific **time/date** range and can be done on **specified cameras**.

In addition to the search strings, up to 5 search conditions can be defined. Search Conditions allow the operator to do “Greater than/Less than/Equal to” type of searches based on numeric values that are contained in text strings. For example a search condition could be set up to find all lines where the string “Total” is found with a value greater than $100.

Every condition filter has 4 entries:

Text – text to search for – Can be typed manually or can be entered automatically by selecting words from the Search list and then dragging it with the mouse and dropping it into the Text box.

Condition - >= , < = , =

Value – Numerical value

Additional Text – other text that must appear in the line along with the String and Numerical value

A text condition “*” can be used as a wildcard that matches all strings and basically just evaluates the numeric portion of a line of text.

Any combination of the **25 Search list strings** and the **5 Conditional filter**s can be used together when doing a search.

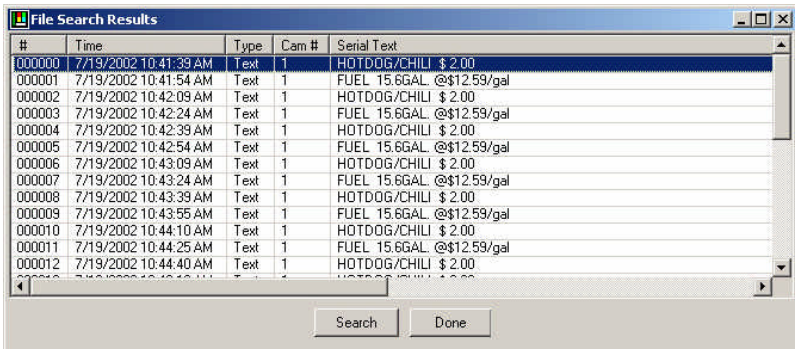
Click the **Start Search** button to begin the search, or click the **Done** button to return to the Main screen.

Search Results

After the Start Search button is pressed, the unit will search for the specified search strings. After a short time, the File Search Results window will appear.

The File Search Results window displays the:

- The item number.
- Start and Stop Time/Date.
- The type of information (Text).
- The Camera Number
- The Text Data.



3.13 Multi-Site Mode

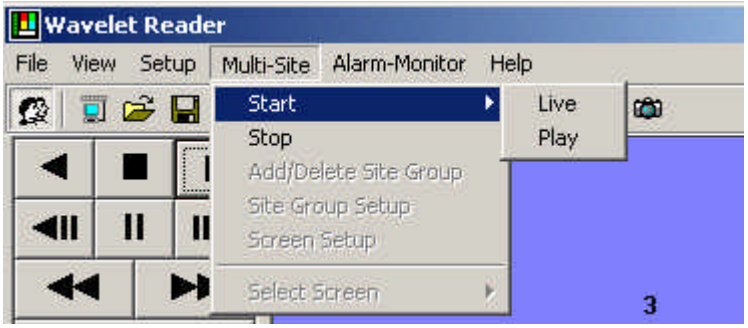
The Multi-Site Mode menu options can be accessed through the main menu bar. To access the Multi-Site Mode commands, select **Multi-Site** from the menu bar. Multi-Site mode is a new feature of WaveReader that allows the operator to view cameras from multiple Triplex units simultaneously on custom definable screens.

Multi-Site mode supports simultaneous connections to up to 16 Triplex units. This gives the user access to up to 256 different cameras. These cameras can be arranged and displayed in any combination on custom definable screens up to a maximum 64 cameras at a time. The user can define up to 25 different Custom Screens that can consist of any mixture of 4, 16, 36 and 64 way screens.

Every Custom Screen can be given a unique name that describes the units whose cameras are grouped within it. These screens are ideally suited to group cameras from Triplex units that are located in the same geographic area. For example, if a school has two Triplex units in their security layout, all 32 cameras can be displayed simultaneously in one 36 way Custom Screen.

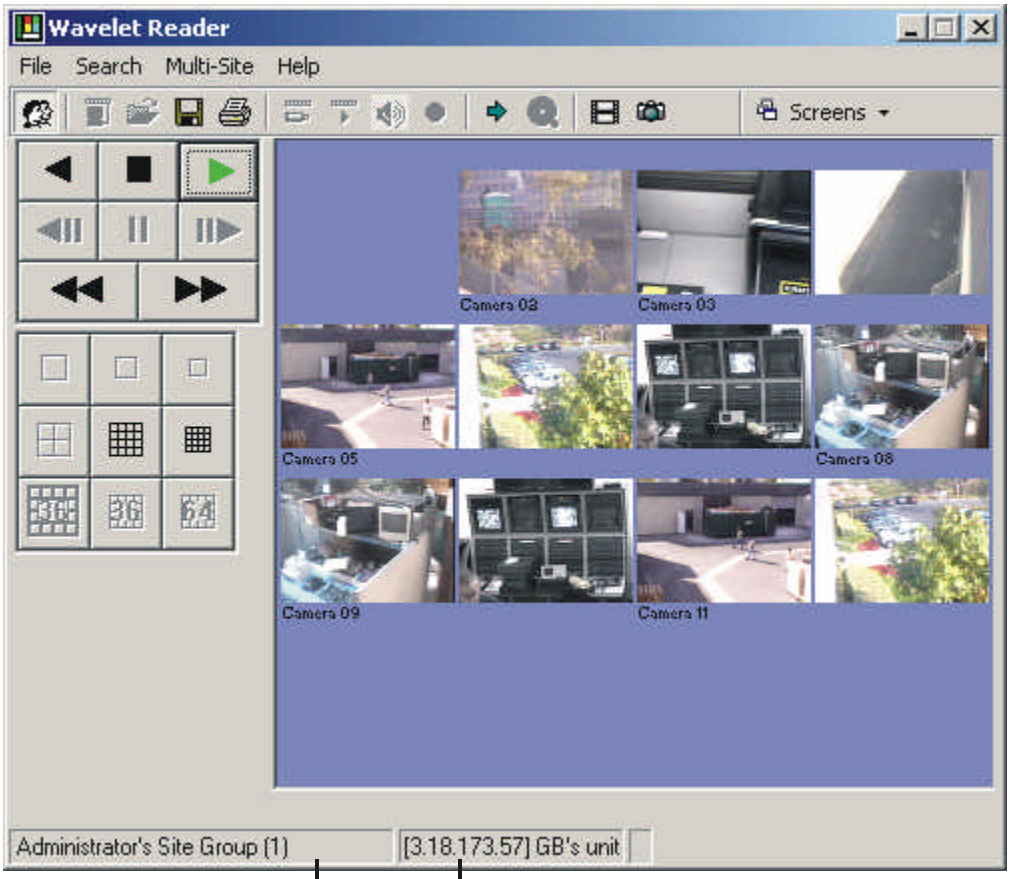
Start Multi-Site Mode

To enter Multi-Site mode, simply click on the **Start** menu item. The two modes that can be chosen from are Live and Play.



- **Live**: In Live mode, all connections that are made to Triplex units will be live-only connections. This is the preferred way of connecting when many users are connecting to the same triplex units and everyone wants to view live images.
- **Play**: In Play mode, all connections that are made to Triplex units will be Normal connections. This mode allows the operator to review recorded data from several Triplex units simultaneously by doing a search to a specific time and date.

After Live or Play mode is selected, WaveReader will enter into Multi-Site Mode.



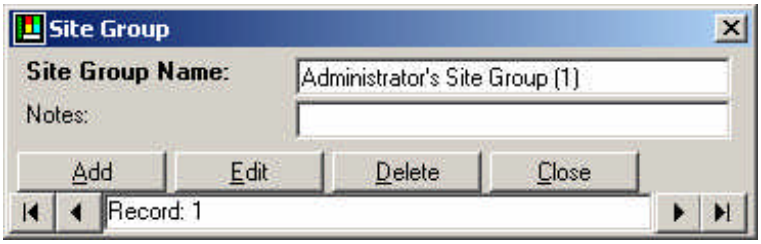
Stop Multi-Site Mode

To return to normal WaveReader mode, simply click on the **Stop** menu item in the **Multi-Site** menu.

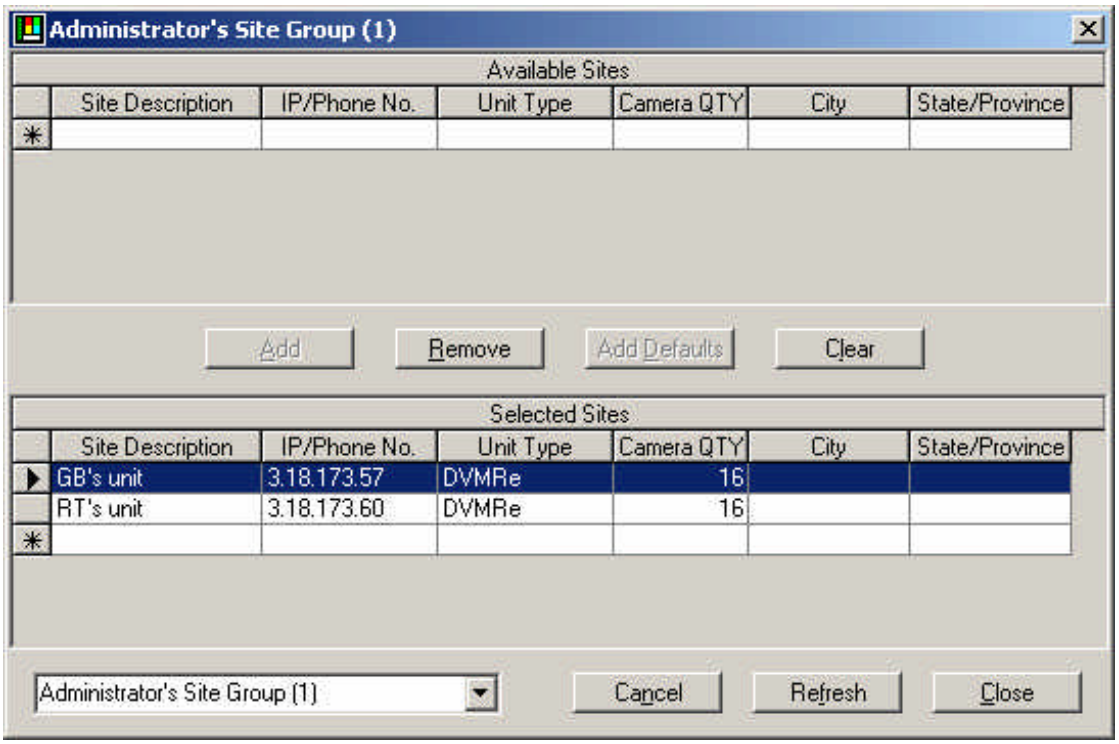
Create a Site Group

A Site group is any combination of sites (up to 16), chosen from the user's address book, from which cameras can be chosen to create Custom screens. The user can create any number of Site Groups and the same site may belong to any number of these Groups.

To add a new Site Group, delete a group or to change the name of an existing group, select the **Add/Delete Site Group** menu.



To add new sites to a Site Group, change the sites that belong to a Site group or simply view the sites in a Site group, select the **Site Group Setup** menu. At the top of the setup screen, all sites in the address book are listed. At the bottom of the screen the sites that have been added to the Site list are displayed. To add a site to the list, select the site in the top window and click the Add button. To remove a site from the list, select the site in the bottom window and click the Remove button.



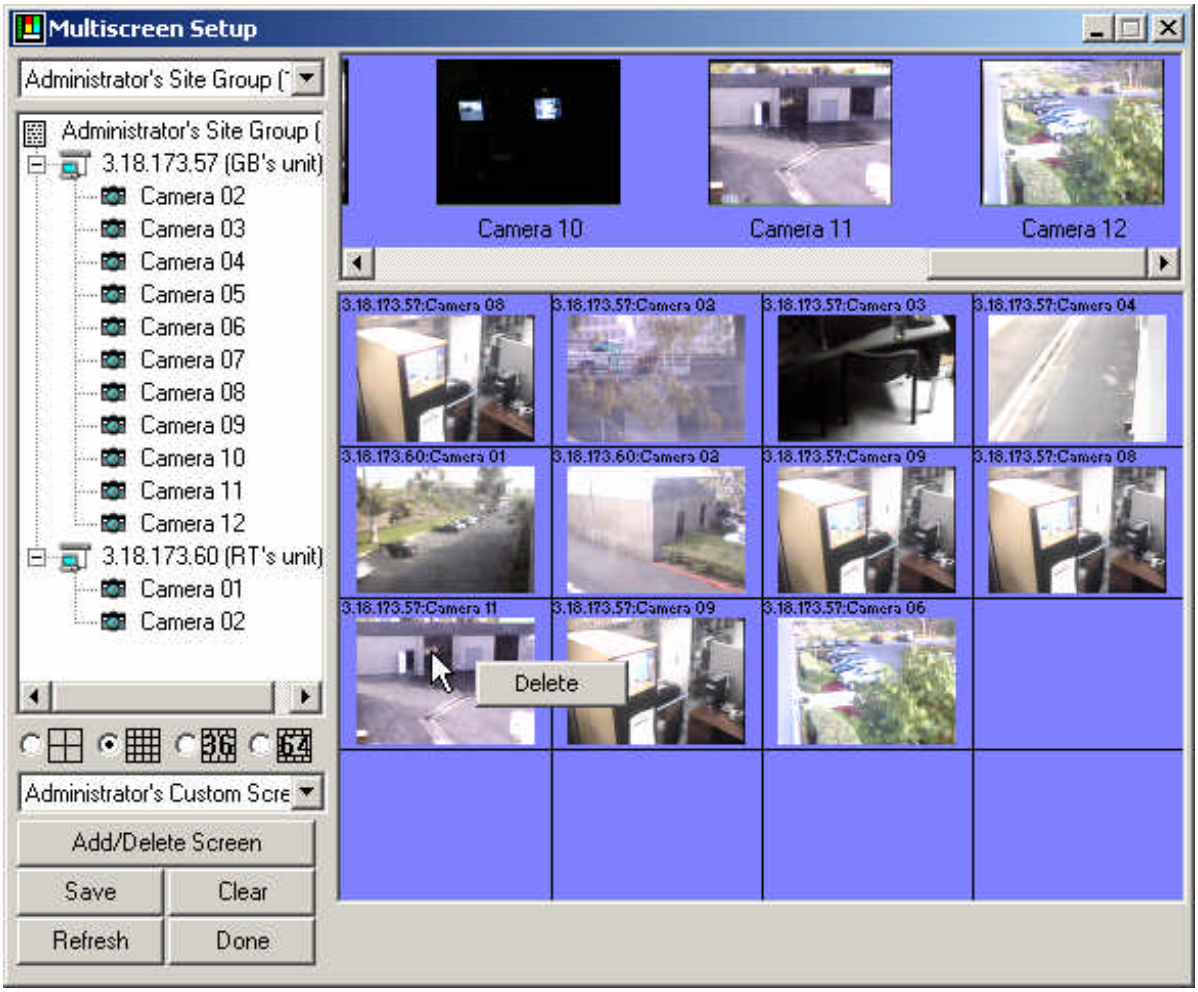
Sites can easily be set up for all existing Site groups by simply selecting the Site Group name from the Dropdown box in the bottom left corner of the Site Group setup screen. The name of the selected Site Group will appear in the title of the screen.

The site lists will be saved when the Close button is clicked or when the user switches to a new Site Group.

How to add a new (or edit an existing) Custom Screen

To create or edit a Custom screen, select the **Screen Setup** menu. While in this setup mode, connections to all the sites in the group will be established and snapshots of all the available cameras will be downloaded. The Site group for which the custom screens are defined can be selected in the dropdown box on the left top of the screen.

A new screen can be added by clicking the **Add/Delete Screen** button. The screen must be given a unique name and must be either a 4, 16, 36 or 64 way.



Once a new custom screen has been added, it can be selected by clicking in one of the 4 icons on the left of the setup screen. If you want to edit a new 36-way screen, click on the 36-way icon and select the screen name from the dropdown list. A 36-way grid will appear that can be modified as described below.

On the left top of the setup screen a list of all the sites will be displayed. By clicking on a specific Site in the list, snapshots from all of its cameras will be displayed at the top of the screen.

The area containing the grid is where the screen layout is designed. The operator can place any camera from any unit, anywhere on the grid. Cameras can be added to the grid in any of the following 3 ways:

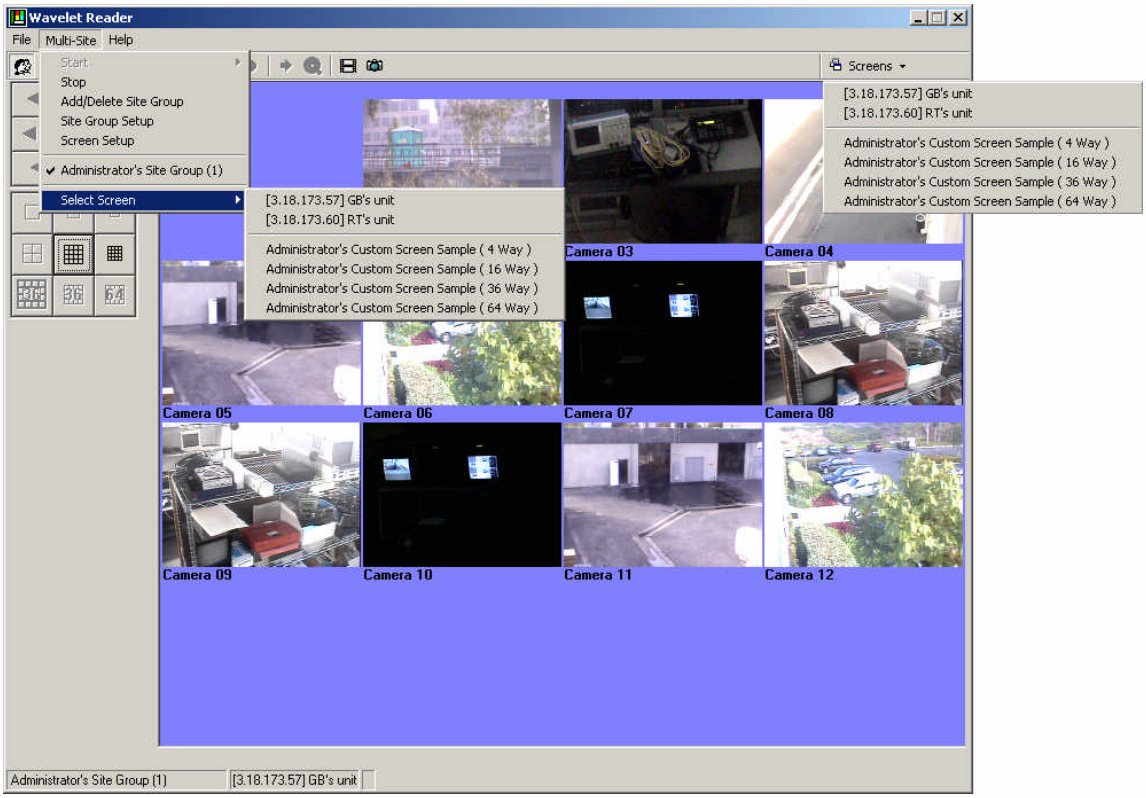
- Click on an image at the top of the setup screen and drag it (while keeping the left mouse button down) to the desired block in the grid and then **drop** it by releasing the mouse button.
- Click on the **+** symbol next to the site in the preferred list to expand it into a list of Camera titles. Click and drag the Camera Title to the desired grid position.
- Click on the site name in the preferred list, hold the mouse down and drag it to a cell in the grid. While dragging, the mouse cursor will turn into a **Hand holding a Page** picture. When the mouse button is released, all available cameras for that site will be added to the grid (starting at the cell where the mouse was released and filling up the cells in the row towards the right) wrapping around to the next row if needed.

Right clicking the mouse and selecting **Delete** can clear cells in the grid. Clicking the clear button to the left of the grid will clear the whole screen.

Images already dropped on the grid can be moved around by clicking and dragging them around on the grid. By holding in the Control key before clicking and dragging, a copy of an image can be created and moved to a new cell in the grid.

How to change to a new Custom Screen

To change to a new Custom screen, choose the screen name from the **Select Screen** menu. Another way of selecting a screen is to select it from the **Screens** button on the right hand side of the toolbar.



In both cases, the screen list consists of some Default screens followed by the user's custom defined screens.

- **Default 16 Way Screens:** The screens at the top of the list are all 16 Way screens and are automatically created – one for every Site in the site list. It shows all 16 cameras connected to a Triplex. This is equivalent to the old WaveReader 16 way screen.
- **Custom Screens:** The screens at the bottom of the list are the screens that are created by the operator. They can be 4, 16, 36 or 64 way screens. These screens can contain cameras from 1 to 16 Triplex units.

Search while connected in Normal mode

To do a search to a specific Time/Date on multiple units simultaneously, select the Search menu and choose **Go to Time/Date**. Enter the time/date in the Calendar and Time/Date control on the Search Screen and press the Go button. If recorded data with that time stamp exists on the units whose cameras are being displayed, the new images will be uploaded and the played back data from the units will be **synchronized** in time. Depending on the rate at which the data was recorded on the different units, the data will start drifting out of **sync** until the next time/date search will snap them back in **sync** again.

3.14 The Alarm Monitoring Menu

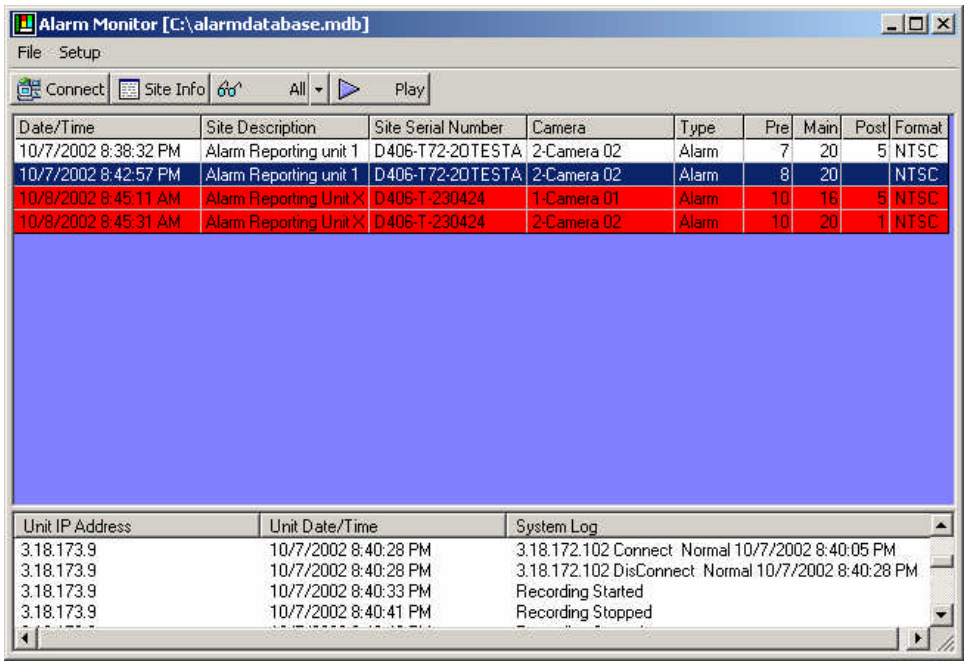
The Alarm Monitoring menu options can be accessed through the main menu bar. To access the Alarm Monitoring commands, select **Alarm-Monitoring** from the menu bar.

The following commands are available:

- Start the Alarm Monitor
- Stop the Alarm Monitor

Start the Alarm Monitor

This command launches the **Alarm Monitor** Screen.



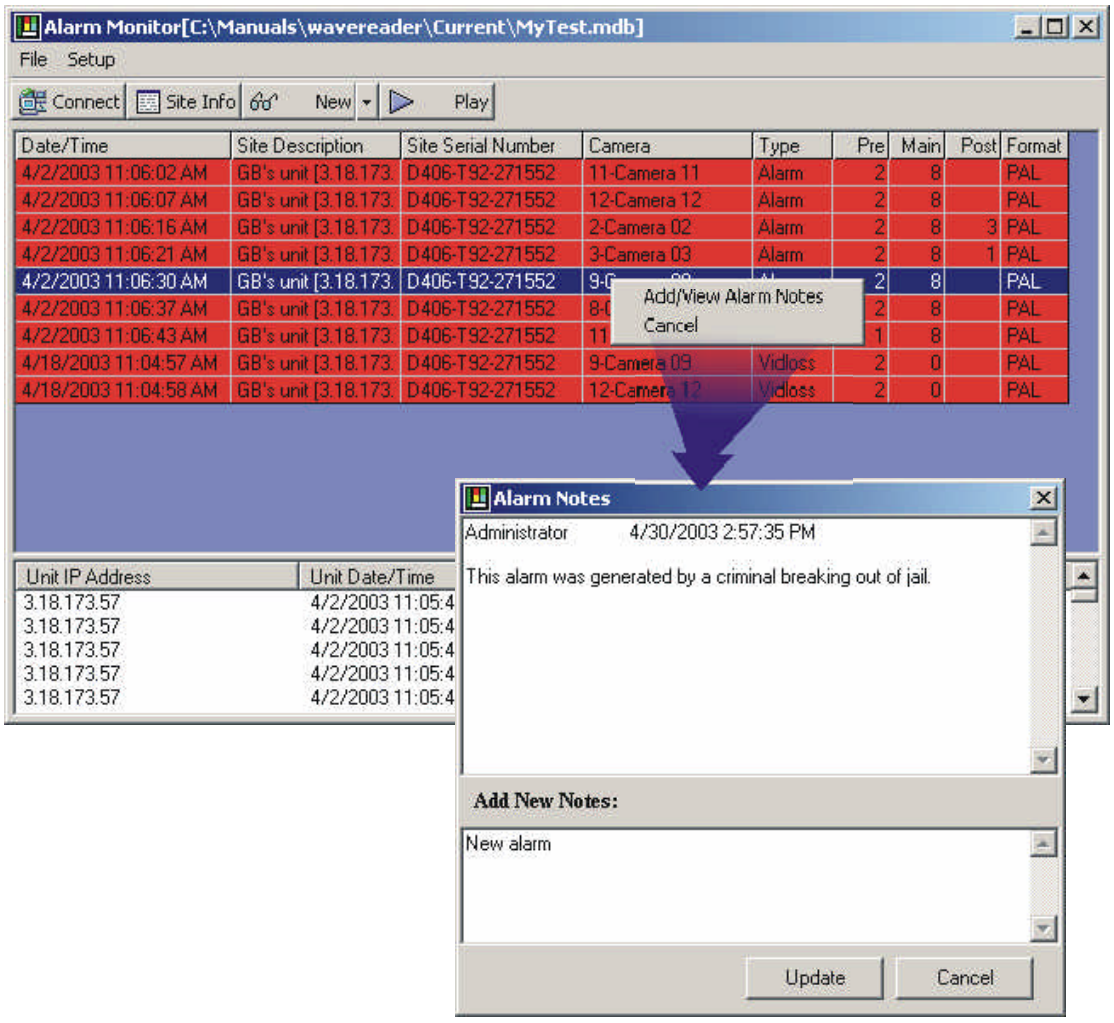
The Alarm Monitor screen lists all the conditions that have been reported to WaveReader. The screen consists of two tables.

The topmost table displays data in a list format. Every row in the table represents a specific camera on a specific Triplex from which alarm images have been uploaded. Sometimes it can happen that a Triplex reports alarms on more than one camera. In this case more than one row will be added to the table.

Every row in the table consists of the following fields:

- **Date/Time** – Specifies exactly when the alarm happened in the calling unit's time.
- **Site Description** – IP address of the unit that reported the alarm
- **Site Serial Number** – the Serial number of the unit that called
- **Camera** – The camera number associated with the alarm
- **Type** – The type of alarm
- **Pre** – Number of Pre-Alarm images that were uploaded
- **Main** - Number of Main-Alarm images that were uploaded
- **Post** - Number of Post-Alarm images that were uploaded
- **Format** – Video Format (NTSC or PAL)

Right-click on a row to launch a notes window that can be used to enter pertinent information about that specific alarm. Multiple users may add different messages to the same alarm. Each time a message is added the username and the time and date will be logged and appended to the notes field.


Alarm Monitor[C:\Manuals\wavereader\Current\MyTest.mdb]
File Setup
Connect
Site Info
New
Play
Date/Time
Site Description
Site Serial Number
Camera
Type
Pre
Main
Post
Format
4/2/2003 11:06:02 AM GB's unit [3.18.173. D406-T92-271552 11-Camera 11 Alarm 2 8 PAL
4/2/2003 11:06:07 AM GB's unit [3.18.173. D406-T92-271552 12-Camera 12 Alarm 2 8 PAL
4/2/2003 11:06:16 AM GB's unit [3.18.173. D406-T92-271552 2-Camera 02 Alarm 2 8 3 PAL
4/2/2003 11:06:21 AM GB's unit [3.18.173. D406-T92-271552 3-Camera 03 Alarm 2 8 1 PAL
4/2/2003 11:06:30 AM GB's unit [3.18.173. D406-T92-271552 PAL
4/2/2003 11:06:37 AM GB's unit [3.18.173. D406-T92-271552 PAL
4/2/2003 11:06:43 AM GB's unit [3.18.173. D406-T92-271552 PAL
4/18/2003 11:04:57 AM GB's unit [3.18.173. D406-T92-271552 9-Camera 09 Vidloss 2 0 PAL
4/18/2003 11:04:58 AM GB's unit [3.18.173. D406-T92-271552 12-Camera 12 Vidloss 2 0 PAL
Add/View Alarm Notes
Cancel
Unit IP Address
Unit Date/Time
3.18.173.57 4/2/2003 11:05:4
3.18.173.57 4/2/2003 11:05:4
3.18.173.57 4/2/2003 11:05:4
3.18.173.57 4/2/2003 11:05:4
3.18.173.57 4/2/2003 11:05:4
Alarm Notes
Administrator 4/30/2003 2:57:35 PM
This alarm was generated by a criminal breaking out of jail.
Add New Notes:
New alarm
Update
Cancel

The function of the **Connect** button is to allow the user to connect back to the unit that generated the alarm. The play pointer on the unit's hard disk will be automatically placed at the position where the alarm occurred. This allows the user to do more detailed investigation by looking at what was recorded before the alarm happened.

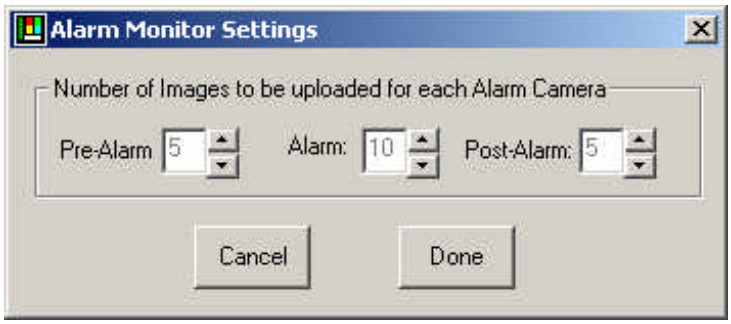
Images from a specific camera or cameras can be played back by selecting the corresponding row or rows using the mouse and then pressing the **Play** button. When only a Pre, Main or Post section is selected, only those images will be played back. The **Single step** buttons may also be used while analyzing the data.

Status Information about the Triplex unit that called can be viewed by clicking on the **Site Info** button.

When data from a camera has been reviewed, it can be deleted from the database by pressing the delete key on the keyboard or it can simply be marked as reviewed by clicking the **Unmark as New** button menu.

New alarms will be shown in red and those that have been **Unmarked** will be displayed in white. The user can either view all the rows in the database by clicking the **All** button or he can only show the new alarms by clicking on the **New** button.

The **Setup** menu on the Alarm Monitor Screen allows the user to specify the maximum number of images to upload for the Pre, Main and Post alarms.



The table on the bottom of the Alarm Monitor screen logs all reported items that do not have associated images. The items that will be logged include:

- **Video Loss** – Any change in the video loss status
- **Recording** – Starting and Stopping Recording
- **Archive device** – State changes (e.g. tape full)
- **Menu access** – Entered menus – exited menus
- **Power up** - The Triplex reports its power-up time
- **Unit Connections** – The IP Address of every PC that connects to or disconnects from the Triplex is reported.

The System Log shows the IP address of the calling unit, the timestamp when it was reported and a description of the item.

The information in the bottom table can be copied to the Windows Clipboard by using the **Copy System Log menu** or it can be deleted by right clicking on the table.

Stop the Alarm Monitor

This command halts Alarm Monitoring.

3.15 The Help Menu

The Help menu options can be accessed through the main menu bar. To access the Help command, select **Help** from the menu bar.

This menu allows the user to:

- **Access Help Topics**.
- **Obtain Mux Information.**
- **Obtain Software version and System Info**.

Help Topics

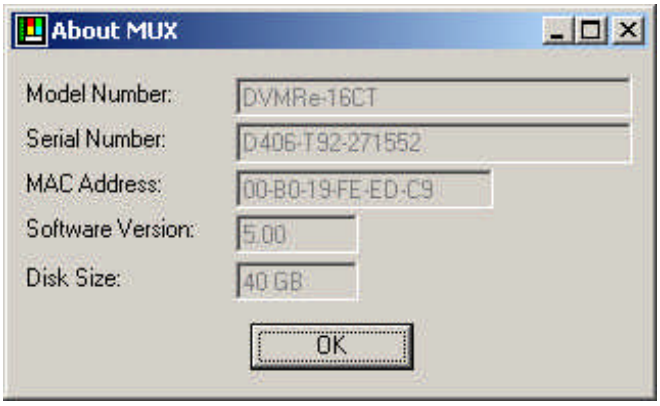
The Help Topics are available in this menu and for context sensitive help on some options, depress the F1 key while the mouse is hovering over a feature.

About Mux

The About Mux command provides information about the connected Mux.

The following information is viewable:

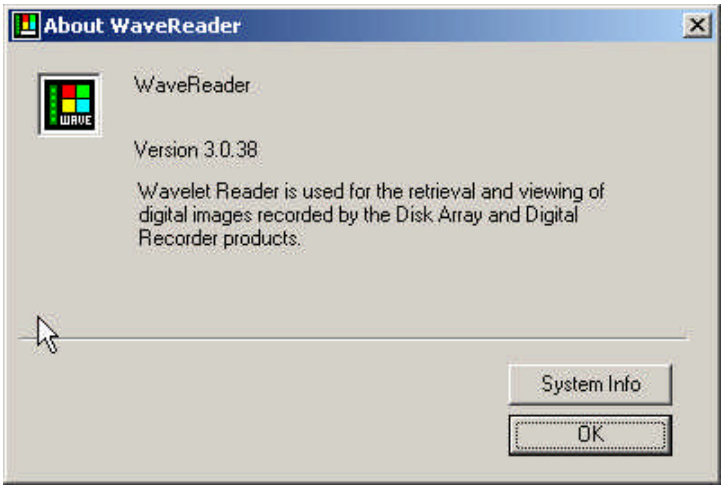
- Model Number.
- Serial Number.
- MAC Address.
- Software Version.
- Disk Size.



About

The About command provides information about the Version number of the Software.

Access to the Windows System Info command is also available in this window. Extensive System information can be retrieved with this command.


About WaveReader
WaveReader
Version 3.0.38
Wavelet Reader is used for the retrieval and viewing of digital images recorded by the Disk Array and Digital Recorder products.
System Info
OK

4 USING WAVESTUDIO

WaveStudio is an image enhancement program designed specifically for use with WaveReader. WaveStudio allows the user to capture and save images. WaveStudio also allows the user to increase or decrease contrast, zoom, sharpen lines, enhance sections of the picture, and bring out detail in dark areas.

4.1 Opening WaveStudio

From the Menu bar, select **File → Start Wavestudio** or click on the WaveStudio icon on the Icon Bar. The WaveStudio window will open. The WaveStudio window consists of two areas, the Main Viewing Area and the Toolbar.

4.2 WaveStudio Toolbar

All of the functions in WaveStudio are performed using the toolbar located on the left side of the WaveStudio window.

Intensity: Changes the overall brightness (intensity) of the image.

Contrast: Increases or decreases the contrast of the image.

H. Contrast: Increases or decreases the contrast of the image in a image, using a histogram to determine the median brightness.

This method finds the median brightness of the image; then brightens the pixels with values above the median and darkens the pixels with values below the median. This is more sophisticated (but slower) than the regular contrast method, which uses the middle possible value (128) rather than finding the actual median.

Hue: Changes the hue of colors in the image by rotating the color wheel. The user can rotate the color wheel in either direction. A 180-degree rotation in either direction changes each color to its complement. Positive rotation takes red toward green, green toward blue, and blue toward red. Negative rotation has the opposite effect.

Saturation: Negative values decrease the saturation of colors. Positive values increase the saturation. The saturation level is increased or decreased by a percentage of its present saturation level.

Sharpen: Increases or decreases the sharpness of the image. Negative values decrease the sharpness of the image. Specify –1000 for minimum sharpness. Positive values increase the sharpness. Specify +1000 for maximum sharpness.

Zoom: Clicking the In or Out button will cause the image to begin increasing or decreasing in size. Click the Stop button to stop the zooming. Click the Normal button to return the image to the original size.

Noise Removal: Changes the color of each pixel in the image to the average color of the pixels surrounding it. This results in a blur effect.

Histogram Equalization: Linearizes the number of pixels per gray area in the bit map. This can be used to bring out detail in the dark areas of an image.

Region Selection: Used to isolate sections of an image for enhancement. Select Rectangular to drag a box over the desired picture area. Select Freehand to draw borders around the desired area. Click On to activate this feature.

Copy & Paste: Use these buttons to copy images to or from the clipboard.

Undo: Click this button to undo all changes made to the image.

Done: Click on this button to close the WaveStudio program.

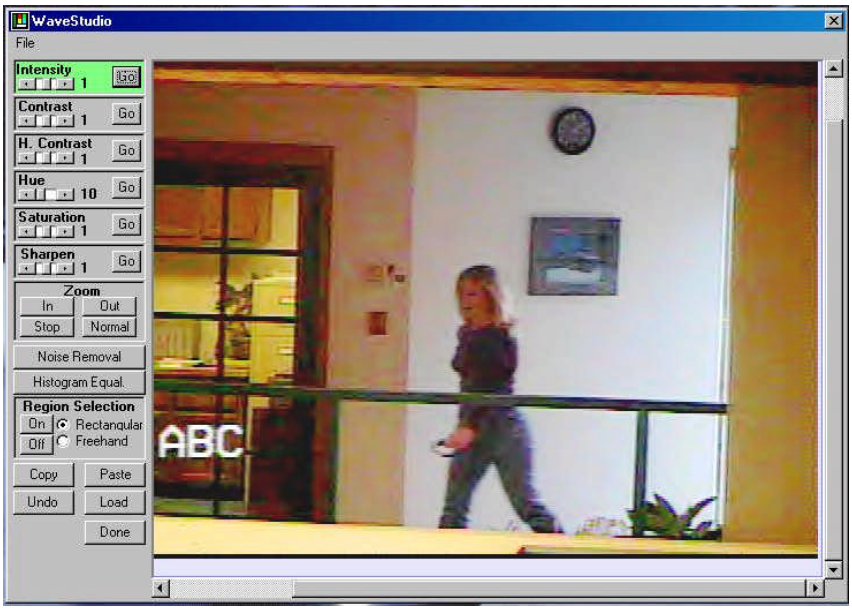
4.3 WaveStudio Main Viewing Area

When WaveStudio is opened, it automatically captures the image currently displayed in the WaveReader Main Viewing Area.

Use the WaveReader window to find and pause the exact image you wish to edit.

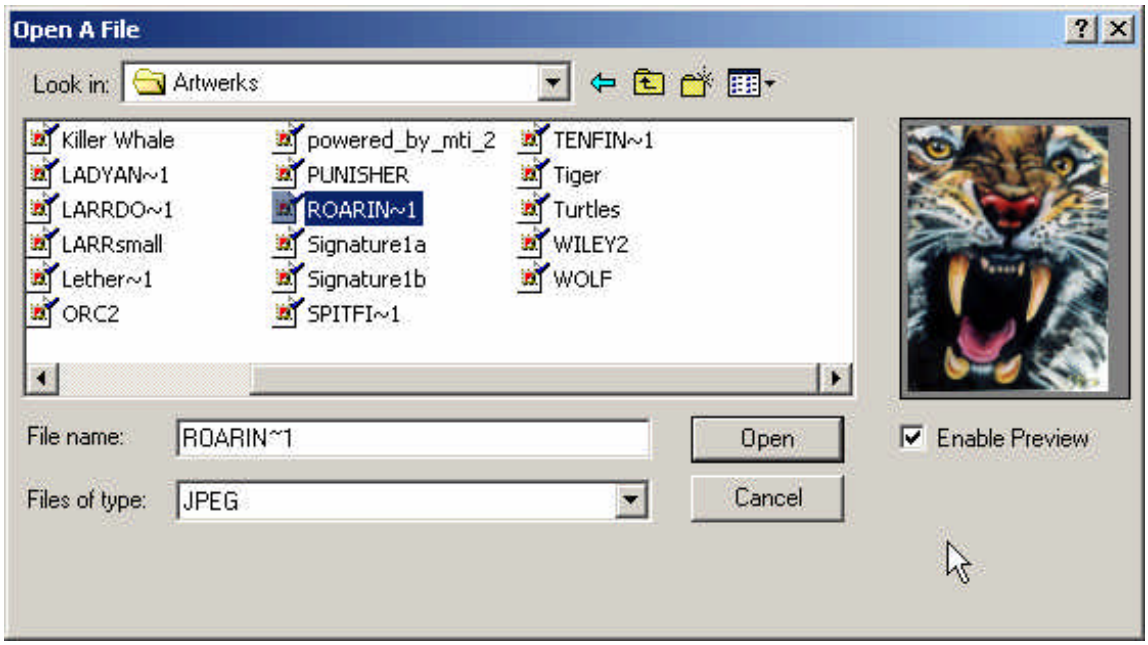
Press the Load button to insert the image into the Wavestudio's Main Viewing Area.

Any image size or screen configuration displayed in the WaveReader Main Viewing Area can be copied to the WaveStudio Main Viewing Area.



4.4 Opening a File in WaveStudio

To open a file in WaveStudio, select **File → Open** from the Menu bar. The open file requestor window will appear. Navigate to the file to edit, select the file and click open.



5 DOME PAN/TILT/ZOOM CONTROL

5.1 Entering PTZ Mode

WaveReader provides Pan/Tilt/Zoom capabilities. To access the PTZ controls from WaveReader, the following conditions must be met:

- WaveReader must be connected (via the ethernet or POTS) to a DVR capable of interpreting the PTZ commands.
- The DVR unit must be connected to a ProBridge PTZ controller.
- The cameras must be capable of performing PTZ.
- The WaveReader must establish a Normal connection, and must be in Live Look-in Mode.

POTS Note: Modem connection for PTZ commands is not recommended. Due to bandwidth and typical phone line limitations of modem connections, PTZ functions may be very sluggish. If PTZ control via modem is required, we recommend that the **Go To Preset** command is used, rather than manual PTZ operation.

5.2 Panning And Tilting

To pan or tilt a camera:

1. Select the desired camera from the multiscreen by clicking on it.
2. Click and hold the cursor on the image. The square (shown here) will appear.
3. Drag the mouse in the direction you wish to pan or tilt. A number from 1 to 10 will appear in the square, indicating the rate of pan or tilt (10 being the fastest).

Nudge

To nudge the camera position a single predefined increment, left click the mouse close to the image borders. Clicking on the left edge will nudge the camera to the left, etc.

Auto-Center

Double clicking on the image will cause the camera to re-center the image at that location. Current zoom position is maintained.

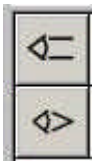
Camera Controls

Once the above conditions have been met, the additional menu items (shown here) are added to the Main Window of the WaveReader.

Focus In & Out

Click and hold the Focus In & Out buttons to operate lens focus.

Shortcut: Holding down the Alt key and dragging the cursor up/down on-screen (as if you were tilting the camera) will operate the focus.



Iris Open & Closed

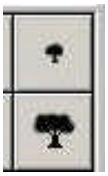
Click and hold the Iris Open & Closed buttons to lighten or darken the image, and adjust for changing light conditions.

Shortcut: Holding down the Shift key and dragging the cursor up/down on screen (as if you were tilting the camera) will operate the iris control.

Zoom In & Out

Click and hold the Zoom In & Out buttons to operate the camera lens zoom.

Shortcut: Holding down the Control key and dragging the cursor up/down on screen (as if you were tilting the camera) will operate the zoom control.



Auto Zoom In: Click the **Auto Zoom In** button, then click and draw a rectangular window on the currently displayed image with the left mouse button. Once the button is released, the camera will automatically zooms to the drawn window. If the window size is beyond the camera's zoom capabilities, the image will center on the middle of the defined window at the maximum zoom-in position.

Return - Previous: Click on this button to return the camera to the PTZ position that was selected prior to the last Auto Zoom In command.

Zoom All: Click on this button to zoom all the way out on the currently selected camera.

Set Preset: Navigate the camera to the desired location, select the desired preset from the drop down list box, then click **Set**.

Go To: To send the camera to the desired preset, select the preset from the drop down list box, then click **Go To**.

6 QUICKWAVE EVIDENCE CAPTURE CD

WaveReader allows any PC user with a CD writer to create a portable evidence CD, which includes an auto-launching lite version of WaveReader called QuickWave. WaveReader does not need to be installed on the PC for QuickWave to operate, and QuickWave does not install itself (or a version of WaveReader) on the PC upon which it is being played-back. The program is loaded and played directly from the QuickWave CD.

The QuickWave CD cannot be played back on Windows 95 or Windows 98 Release Version 1.

6.1 Creating The QuickWave CD

1. Use the Disk Analysis Screen in WaveReader to select and save the desired video data as a .60d file.
2. Copy the .60d file (or files) to the C:\Program Files\WaveReader\QuickWaveCD\QuickWave folder.
3. Using the CD writer software, select **the contents** of the C:\Program Files\WaveReader\QuickWaveCD folder.

Do not select **the QuickWaveCD folder** to be written by the CD writer. Select **the contents of the QuickWaveCD folder** to be written by the CD writer.

4. Using the CD writer, create the QuickWave CD.
5. Test the CD by placing it in the CD drive of your computer. The QuickWave program should launch automatically, and begin playing the .60d file.

When finished creating the QuickWave CD, delete the .60d file (or files) from the C:\Program Files\WaveReader\QuickWaveCD\QuickWave folder, so that it does not accidentally get copied onto a QuickWave CD (for which it was not intended) in the future.

6.2 Playing The QuickWave CD

1. Place the QuickWave CD in the CD drive of a PC.
2. The QuickWave program will launch from the CD and begin playing the .60d file.
3. QuickWave's operation is similar to that of WaveReader.
4. Select **File → Open** to playback a different .60d file.

6.3 Creating a QuickWave CD using the CD Wizard

When WaveReader is running on a PC that has DirectCD® Version 3.0 or later installed, the Wizard can be used to automate the process of creating a QuickWave CD.

1. Select **File** -> **Start QuickWave CD Wizard** from the menu to launch the Wizard. (If this menu item does not appear in the menus, then the DirectCD® could not be detected on the PC and the Wizard cannot be used.

2. The Wizard will guide you through the CD creation process.